

APPENDIX **D**

ALL OTHER DEVELOPMENT PLAN CHECK FORMS

Appendix D provides blank forms and checklist(s) that the project applicant can use for submittal to the Watershed Protection Division of the City of Los Angeles as part of the project approval process. The following is a list of the attached forms:

BLANK FORMS

- LID CHECK LIST
- COVENANT & AGREEMENT (C&A)
- LADBS STORMWATER BMP VERIFICATION FORM
- STORMWATER OBSERVATION REPORT (SOR)

Intentionally Left Blank

LOW IMPACT DEVELOPMENT (LID) CHECKLIST ALL OTHER DEVELOPMENT PROJETS



Regular	Expedite (add)
Fee: \$ 714 (QC 721) _____	\$357 (QC 719) = \$ 1,071 _____
Fee: \$ 816 (QC 714) _____	\$408 (QC 717) = \$ 1,224 _____
Fee: \$ 1,020 (QC 715) _____	\$510 (QC 718) = \$ 1,530 _____
Other: _____	
Includes 2% surcharge fee	

Your WPD Project Plan Checker: _____

Counter: **213-482-7066** Office: **213-485-**

PCIS# _____

The following is a list of outstanding items that are required in order for the project to be approved by the WPD for compliance with the stormwater runoff requirements:

- Complete the Project Summary Clearance Form (Reverse side).
- Provide treatment train BMP to pre-treat and infiltrate/retain/reuse the first 0.75-inch 85th percentile rain event as required by the City of Los Angeles' LID Ordinance and the Regional Board NPDES permit.
- Provide soil report addressing infiltration feasibility (include percolation test). Obtain approval from Building and Safety, Grading Division on the location of the proposed infiltration system, and include a copy of approval **on plans**.
- Show **on plans** detail drawings (w/size & model) of the BMP device(s) including inlet and outlet elevations.
- Show **on plans** roof drainage layout and connection(s) to treatment system(s). Include riser diagram.
- Submit completed Covenant & Agreement (C&A) Form with Operation and Maintenance (O&M) Plan for approval and signature prior to County recordation. **Provide 8.5"x11" Plot Plan showing location and size of each BMP(s).** Terminate old C&A.
- Submit letter of authority for the individual(s) signing the Covenant and Agreement (original copy).
- Stencil at all drainage inlets (i.e. catch basins, trench drains). Stencil requirements shall be noted **on plans**.
- Label Trash Enclosures and show detail **on plans**.
- Identify Vegetated areas **on plans**. Add a note "All slopes must be vegetated" **on plans**.
- Provide Hydrology Calculation to determine the volume (**Vm**) and/or flow rate (**Qpm**) of mitigated Stormwater runoff for each treatment system of a sub-drainage area. Show selected BMP type and size.
- Provide one (1) set of full size plans for first time review; three (3) sets at the final SIGNOFF, with Engineer's wet stamp and signature.
- Obtain infiltration approval from the Upper Los Angeles Watermaster.
- Obtain stormwater use approval from County of Los Angeles, Department of Public Health.
- Return marked up plans and large scale plan check correction sheet with resubmittal.
- Others:** _____

For additional information: www.lastormwater.org/green-la/low-impact-development/lid-documents/

Project Summary Clearance Form

Permit Application #	_____ - _____ - _____	BMP4 - Type	
Development Type:	Redevelopment ? (Y N) / Liquefaction ? (Y N)	BMP4 - Quantity	
	ESA ? (Y N) / Hillside Grading Area ? (Y N)	BMP4 - Size	
APN #		Contact Person	
Development Address		Phone #	
Zip Code		Email	
Watershed (Circle one)	Ballona - LA River - Dominguez Channel - Harbor - Santa Monica Bay	Ow ner	
Development Impervious Area (Acre)		Ow ner Phone #	
Development Pervious Area (Acre)		Date Submitted	/ /
V _m	_____FT ³ Or _____Gal.	WPD Staff	
Qpm (cfs)		Office (circle one)	Figueroa - Van Nuys - West LA - Harbor
BMP1 - Type		List All Other Permit Applications Requiring Stormw ater Clearance:	
BMP1 - Quantity			
BMP1 - Size			
BMP2 - Type			
BMP2 - Quantity			
BMP2 - Size			
BMP3 - Type			
BMP3 - Quantity			
BMP3 - Size			

STORMWATER MITIGATION LOW IMPACT DEVELOPMENT (LID)



Large Scale Plan Check Corrections Sheet

Plan Check Submittal Date: _____

Permit App.#: _____

Job Address: _____

Development Type: _____

Applicant: _____

Phone: (_____) _____

Applicant email: _____

P.C. Engineer: _____

Phone: (_____) _____

E-mail: _____@lacity.org

INSTRUCTIONS FOR PROCEEDING WITH THE PLAN CHECK (PC) PROCESS:

1. Review corrections circled on this Plan Check Correction Sheet.
2. Provide a written response or reference to plans and details pursuant to the corrections. Location of any revisions on the plans shall be identified as part of your responses. For any questions related to the PC corrections, email or call the Plan Check Engineer.
3. Complete item #2 above and submit the originally checked set of plans, report, and calculations to the counter along with this plan correction sheets. Unprepared responses with incomplete plans or calculations may result in plan check delays.
4. Once all the items have been corrected a Covenant and Agreement will be prepared for final approval. Upon providing a certified copy and 3 sets of plans, a clearance will be issued.

PART I: LID REPORT

Provide Low Impact Development (LID) report which includes the following:

A. PROJECT BACKGROUND

- i. Name of Project and Developer
- ii. Introduction and Project description
- iii. Scope of work (identify if the project is comprised of multiple lots).
- iv. Proposed site drainage:
 - a. Breakdown of entire site pervious and impervious area.
 - b. Breakdown by tributary area of pervious and impervious area.

B. HYDROLOGY CALCULATIONS

- i. Project design storm volume must be based on:
 - a. 0.75-inch rain event;
 - b. 85th percentile, 24-hour runoff event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map (_____ inch).
<http://dpw.lacounty.gov/wrd/hydrologygis/>

- ii. Provide Hydrology calculation (Q & Vm) for the entire project site using LA County HydroCalc Calculator.
http://dpw.lacounty.gov/wmd/dsp_LowImpactDevelopment.cfm
- iii. Provide design storm volume calculation for each proposed tributary area.

C. TECHNIAL FEASABILITY SCREENING: Discussion on feasibility screening justifications:

INFILTRATION

- i. Discuss infiltration feasibility (LID Handbook Table 4.1).
- ii. Provide Soil Engineer's report/recommendation.
- iii. Provide percolation test and infiltration rate. Refer to LID Handbook for approved test methods.
- iv. Obtain and provide approval letter from Building and Safety Grading Department (refer to LADBS Informational Bulletin P/BC 2014-118).
- v. Project is located within the Upper Los Angeles River Watershed area. Obtain and provide approval from the Upper Los Angeles River Area Watermaster. Refer to LID Handbook, Appendix J and <http://ularawatermaster.com/>

STORMWATER MITIGATION LOW IMPACT DEVELOPMENT (LID)

Large Scale Plan Check Corrections Sheet

CAPTURE & USE

- i. Provide calculations showing water irrigation demand, Estimated Total Water Usage during the wet weather season (Oct 1st to Apr 30th),. At a minimum, only include landscaping within project limits. If preferred, all available landscaping can be used (refer to LID Handbook, Appendix F).
- ii. Discuss capture and use feasibility, $ETWU_{7\text{-month}} \geq V_m$.
- iii. Obtain and provide approval letter from Los Angeles County Health Department. Refer to LID Handbook, Appendix K and http://www.publichealth.lacounty.gov/eh/EP/cross_con/cross_con_recycle.htm

HIGH EFFICIENCY BIOFILTRATION

- i. Discuss location and design parameters (ponding depth, time to fill, etc.) used for each biofiltration device.
- ii. If certain areas will not be treated, quantify and explain how it will be compensated in a different tributary area.

D. CONCLUSION

- i. Provide summary table which includes:
 - a. Each tributary area (total must match entire project area).
 - b. Calculated volume for each area.
 - c. Proposed BMP.
 - d. Required size of proposed BMP.
 - e. Provided size of BMP.
- ii. If certain areas will not be treated, quantify and explain how it will be compensated in a different tributary area.
- iii. Overall percent of design storm volume being mitigated on-site.

PART II: LID PLANS

LOW IMPACT DEVELOPMENT (LID) PLAN: Stormwater mitigation implementation strategy/plan based on feasibility screening justifications. Plans must be submitted on min 24" x36".

A. Provide Architectural Plans

- i. **Site Plan** showing the following:
 - a. Identify all impervious & pervious surface areas.
 - b. Location of BMPs.
 - c. Size and dimensions.

d. Reference to detail(s).

e. Identify and Label outdoor trash enclosure areas.

- Provide detail on plans.
- Must be walled to prevent off-site transport of trash.
- Trash Enclosures must be covered and drain runoff away from area.
- All trash bins shall be covered. Provide the following note on plans: "All trash bins shall be covered."

B. Provide **Architectural Elevation Plan(s)** showing the following:

- i. BMP(s) location (call out, dimension, and reference detail(s)).
- ii. Downspout(s) discharging into BMPs.
- iii. Provide the following note on plans: "All downspouts to drain to (proposed BMP). See (reference sheets)."

C. Provide **Architectural Roof Plan(s)**

- i. Provide the following note on plans: "All roof runoff to drain to (proposed BMP). See (reference sheets)."

D. Provide **Civil / Grading Plans**

- i. Provide fine grading plan which includes all inlets, slopes, invert elevations showing how runoff is diverted into BMPs and how overflow systems are directed to street.
- ii. Location of BMPs.
- iii. Size and dimensions.
- iv. Provide / Reference BMP details.
- v. Provide pretreatment system (sedimentation basin, filter insert, etc.).
- vi. Provide label with "No Dumping – Drains to Ocean" at all drainage inlets (i.e. catch basins, trench drains).
- vii. Provide summary BMP table from LID Report on plans.
- viii. Provide the following note on plans: "All slopes to be vegetated."

Infiltration BMPs

- i. Provide finish elevations for the following:
 - a. Top and bottom of infiltration BMP(s).
 - b. Overflow.

STORMWATER MITIGATION LOW IMPACT DEVELOPMENT (LID)

Large Scale Plan Check Corrections Sheet

- ii. Provide Upper LA Water Master Approval letter on plans.

Capture & Use BMPs

- i. Clearly show proposed BMP and landscape area served by BMP.
- ii. Show point of connection to drip Irrigation system.
- iii. Provide reference to Landscape Plan.
- iv. Rainwater harvesting system includes distribution pump and/or supplemental domestic water supply. Obtain and provide LA County Department of Public Health Approval letter on plans.

High Efficiency Biofiltration BMPs

- i. Provide finish elevations showing top and bottom of planters to verify depth.
- ii. Provide grade elevations for: Inlet and outlet pipes, Biofiltration finish grade, overflow outlets, and top of wall, if any.

E. Provide Mechanical Plans (Riser Diagram)

- i. Provide riser diagram and routing to each BMP. Include all downspouts and area drains.

F. Provide Landscape Plans

- i. Location of BMP (refer to civil plan).
- ii. Connection to drip irrigation system.
- iii. Landscaped area which will use stormwater as irrigation.

G. Provide Stormwater Observation Report Form on plans.

H. Provide BMP Summary Sheet Form on plans.

I. Add following note to Plans:

- i. Any changes (type, size, location) to approved stormwater Best Management Practice(s) (BMPs) must obtain written approval from Los Angeles, Department of Public Works, Bureau of Sanitation prior to construction of BMP(s).

J. Obtain Code Modification from Building and Safety for:

K. Final approved set must be stamped by the Engineer(s) of records (Civil and/ or Mechanical), and the project architect.

PART III: SITE SPECIFIC PLANS (Refer to Appendix G – Source Control Measures)

Plans shall incorporate design criteria for:

- Outdoor Material Storage Areas (S-2)
- Outdoor Trash Storage Areas (S-3)
- Outdoor Loading/Unloading Dock Areas (S-4)
- Outdoor Repair/Maintenance Bay Areas (S-5)
- Outdoor Vehicle /Equipment/Accessory Washing Areas (S-6)
- Fueling Areas (S-7)

L. ADDITIONAL CORRECTIONS

ADDITIONAL CORRECTIONS:

INSTRUCTIONS FOR FILING COVENANT AND AGREEMENT FORMS

1. Provide 8.5" x 11" Plot Plan showing location and size of all stormwater Best Management Practices (BMPs) – Exhibit 1.
2. Fill out, in **BLACK INK ONLY**, one copy of the Covenant and Agreement Form.
3. Property owner(s) must print and sign their name(s) – **SIGNATURE(S) MUST BE NOTARIZED.**
4. Submit the completed Covenant & Agreement (C&A) Form to Bureau of Sanitation for review. Upon approval, Bureau of Sanitation will provide Operation and Maintenance (O&M) Plan(s) and sign the Covenant and Agreement.
5. Record the C&A Form and the O&M Plan with the Los Angeles County Registrar-Recorder and obtain a certified copy. County Recorder located at:
 - 1) 12400 Imperial Highway
Norwalk, CA 90650
(Near the intersection of the 5 and 605 freeways)
 - 2) 14340 Sylvan Street
Van Nuys, CA 91401
(Near Van Nuys City Hall)
 - 3) 11701 S. La Cienega Blvd., 6th Floor
Los Angeles, CA 90045
(LAX Courthouse)
6. Return the certified copy of the recorded form to the Bureau of Sanitation requiring the covenant (should be a purple stamp on the back of the last page of document recorded).

NO FINAL APPROVAL/CLEARANCE WILL BE GRANTED WITHOUT BUREAU OF SANITATION RECEIPT OF THE CERTIFIED COPY OF THE C&A, PLOT PLAN AND O&M PLAN.

Recording requested by and mail to:

Name: _____

Address: _____

***** Space Above This Line For Recorder's Use *****

MASTER COVENANT AND AGREEMENT
REGARDING ON-SITE STORMWATER MITIGATION MEASURES AND MAINTENANCE

I (We), the undersigned, hereby certify that I am (we are) the owner(s) of the hereinafter legally described real property ("Property") located in the City of Los Angeles, County of Los Angeles, State of California (please give the legal description):

LEGAL DESCRIPTION

ASSESSOR'S ID# _____ TRACT NO. _____ BLOCK NO. _____ LOT NO _____

Site Address _____

In consideration of the City of Los Angeles allowing _____ development on said Property, I (we) do hereby covenant and agree to install, operate and maintain in a good operable condition at all times, at my (our) sole cost, all on-site stormwater Best Management Practices (BMPs) per approved plans. The location and type of each BMP feature installed on the Subject Property is identified on the site diagram attached hereto as Exhibit 1. I (we) shall maintain, in accordance with the attached Operation & Maintenance Plan (Attachment 1), the following on-site stormwater BMPs:

- Rain Tank (min 55 gal): # of barrels _____; _____ total gallons, with minimum of _____ Sq. Ft of vegetated landscaping
- Rain Tank / Cistern: # of tanks / cistern _____; _____ total gallons, with minimum of _____ Sq. Ft of vegetated landscaping
- Porous pavement/pavers: _____ Sq. Ft (for incidental rainfall); and / or _____ Sq. Ft. with _____ ft sub base
- Rain Garden (lined): # of rain gardens _____; _____ total Sq. Ft. Dry Well: _____ Cu. Ft.
- Rain Garden (unlined): # of rain gardens _____; _____ total Sq. Ft. Infiltration Trench: _____ Cu. Ft.
- Flow Thru Planter: # of planters _____; _____ total Sq. Ft. Green Roof: _____ Sq. Ft.
- Other: _____

Owner further covenants and agrees that the above-described stormwater device(s) shall not be removed from the Subject Property unless a revised Plan is approved by the Bureau of Sanitation. In the event that any portion of the above-specified on-site stormwater pollution removal device(s) or BMPs is modified, I (we) shall immediately provide the Bureau of Sanitation of the City of Los Angeles with a revised Plan for their approval, and sign and record a Supplemental Covenant and Agreement, specifying all of the on-site stormwater pollution removal device(s) and BMPs, as modified (along with a modified O&M Plan). No Supplemental Covenant and Agreement shall, in any way, limit or diminish my (our) General Maintenance Obligation.

This Master Covenant and Agreement, and all obligations herein, shall run with the Property and shall be binding upon any future owners, encumbrancers, their successors, heirs or assigns and shall continue in effect until the Bureau of Sanitation approves the termination hereof.

Owner further covenants and agrees that if Owner hereafter sells the Subject Property, Owner shall provide printed educational materials to the buyer regarding the stormwater device(s) that are located on the Subject Property, including the type(s) and location(s) of all such devices, and instructions for properly maintaining all such devices.

(Print Name of Property Owner)

(Print Name of Property Owner)

(Signature of Property Owner)

(Signature of Property Owner)

Dated this _____ day of _____ 20____.

Dated this _____ day of _____ 20____.

(PLEASE ATTACH NOTARY ACKNOWLEDGEMENT)

***** Space Below This Line For Bureau Internal Use *****

Permit No. _____

Approved for recording by: Department of Public Works, Bureau of Sanitation

(Print Name) Engineering Associate

(Signature)

Date: _____

**Low Impact Development (LID)
Post Construction Stormwater Mitigation
Best Management Practices (BMPs)**



STORMWATER BMP(s) VERIFICATION

Upon LADBS Inspector Verification that approved stormwater BMPs are in place, a Stormwater Observation Report (SOR) Form shall be submitted to Department of Public Works, Bureau of Sanitation, 201 N. Figueroa, 3rd floor, station 18.

Project Address: _____

RESIDENTIAL (4 UNITS OR LESS, <10,000 SF, <2,500 SF within a ESA)

Item #	Stormwater BMP	Description (Units, total)	Reference Sheet(s)* (Sheet #)
1	Rain Tank(s) – 50 to 129 gal each		
2	Rain Tank(s) – > 130 gal min		
3	Shade Tree - min 15 gal		
4	Flow thru Planter(s)		
5	Permeable pavers / Porous concrete (min 10% open space)	<input type="checkbox"/> Incidental; _____ total SF	
		<input type="checkbox"/> Infiltration; _____ total SF	
6	Rain Garden	<input type="checkbox"/> # ____ - Lined; _____ total SF	
		<input type="checkbox"/> # ____ - Unlined; _____ total SF	
7	Dry Well		
8	SUMP Pump (modification was not required)		

ALL OTHER DEVELOPMENT

(Residential: 5 ≥ units, 10,000 ≥ SF, within a ESA and ≥2,500SF)

	Item #	Stormwater BMP	Description (Units, total)	Reference Sheet(s)* (Sheet #)
Infiltration	1	Infiltration Basin / Trench		
	2	Dry Well		
	3	Permeable pavers / Porous concrete (min 10% open space)	<input type="checkbox"/> Incidental; _____ total SF <input type="checkbox"/> Infiltration; _____ total SF	
Capture & Use	4	Rain Tank(s) – 530 gal min		
	5	Cistern	<input type="checkbox"/> Above Grade <input type="checkbox"/> Below Grade	
Treat & Discharge	6	Flow thru Planter(s)		
	7	Biofiltration	<input type="checkbox"/> # ____ - Lined; _____ total SF	
			<input type="checkbox"/> # ____ - Unlined; _____ total SF	
	8	Vegetative Swale / Filter Strip		
	9	Catch Basin Filter(s)		
	10	Trench Drain Filter(s)		
11	Down Spout Filter(s)			
	12	SUMP Pump (modification was not required)		

* At a minimum: Site Plan, Architectural Elevations, Roof Plan, Civil Sheets and Detail

STORMWATER OBSERVATION REPORT FORM

(Residential ≥ 5 units & All other Development)



LOW IMPACT DEVELOPMENT

IN THE EVENT THAT THE APPROVED STORMWATER BMP CANNOT BE BUILT PER PLANS (OR ANY MODIFICATION), CONSULT WITH BUREAU OF SANITATION STAFF PRIOR TO ANY PLAN MODIFICATIONS. FAILURE TO DO SO MAY DELAY OBTAINING A FINAL APPROVAL AND CERTIFICATE OF OCCUPANCY (C OF O).

STORMWATER OBSERVATION means the visual observation of the stormwater related Best Management Practices (BMPs) for conformance with the approved LID Plan at significant construction stages and at completion of the project. Stormwater observation does not include or waive the responsibility for the inspections required by Section 108 or other sections of the City of Los Angeles Building Code.

*STORMWATER OBSERVATION must be performed by the engineer or architect responsible for the approved LID Plan or designated staff in their employment. **As part of the observation, provide photos of the BMPs taken during various construction phases.***

*STORMWATER OBSERVATION REPORT must be signed and stamped (see below) by the engineer or architect responsible for the approved LID Plan and submitted to the city prior to the issuance to the certificate of occupancy. **PRIOR TO CERTIFICATE OF OCCUPANCY (C of O), SOR FORM, PRINTED PHOTOS OF THE BMPS TAKEN DURING VARIOUS CONSTRUCTION PHASES AND APPROVED STAMPED PLANS BY THE BUREAU OF SANITATION MUST BE SUBMITTED TO THE PUBLIC COUNTER FOR STAFF APPROVAL.***

Project Address:	Building Permit No.:
Name of Engineer/Architect responsible for the approved LID Plan:	Phone Number:

List all BMPs installed as part of the project: Coordinates of the most significant (or typical) BMPs:

BMP Type: _____ # of units: _____ Lat: _____ ; Long: _____ <i>Ex: Lat: 34.04152; Long: -118.25962 (5 sig digits)</i>	BMP Type: _____ # of units: _____ Lat: _____ ; Long: _____
BMP Type: _____ # of units: _____ Lat: _____ ; Long: _____	BMP Type: _____ # of units: _____ Lat: _____ ; Long: _____

I DECLARE THAT THE FOLLOWING STATEMENTS ARE TRUE TO THE BEST OF MY KNOWLEDGE:

1. I am the engineer or architect responsible for the approved LID Plan, and;
2. I, or designated staff under my responsible charge, has preformed the required site visits at each significant construction stage and at the completion to verify that the Best Management Practices (BMPs) as shown on approved plans have been constructed and installed in accordance with the approved LID Plan.

Wet Stamp of Engineer or Architect

Signature

Date