

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY

2011 LOS ANGELES GREEN BUILDING CODE

FORM GRN 9

MANDATORY REQUIREMENTS CHECKLIST

ADDITIONS AND ALTERATIONS TO RESIDENTIAL BUILDINGS OF SIX STORIES OR LESS

(INCORPORATE THIS FORM INTO THE PLANS)

Project Address: 217 MC CADDEN PL. LOS ANGELES, CA. 90004

Date: 10/24/11


ITEM #	CODE SECTION	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note # or detail #)
PLANNING AND DESIGN			
1	9.106.2	Storm water drainage and retention during construction	GRN-1 FORM GRN 1
2	9.106.3	Surface drainage	A-0 SITE PLAN
ENERGY EFFICIENCY			
3	9.210.1	Appliance rating	GRN-1 NOTE # 5
4	9.211.4	Future access for electrical solar system(>2,000 ft ²)	N/A
5	9.211.4.1	Space for future electrical solar system (>2,000 ft ²)	N/A
WATER EFFICIENCY & CONSERVATION			
6	9.303.1	20 percent savings	GRN-1 FORM GRN 16
7	9.303.2	Multiple showerheads serving one shower	GRN-1 NOTE # 10
8	9.304.1	Irrigation controllers	GRN-1 NOTE # 11
9	9.304.1.1	Irrigation design (>500 ft ² addition and > 2,500 ft ² landscape area)	GRN-1 NOTE # 12
MATERIAL, CONSERVATION & RESOURCE EFFICIENCY			
10	9.406.1	Joints and openings	GRN-2 NOTE # 13
11	9.407.3	Flashing details	GRN-2 DETAILS 1 TO 6
12	9.407.4	Material protection	GRN-1 NOTE # 15
13	9.408.1	Construction waste reduction of at least 50 percent	GRN-1 NOTE # 16
14	9.410.1	Operation and maintenance manual	GRN-1 NOTE # 17
ENVIRONMENTAL QUALITY			
15	9.503.1	Fireplaces and woodstoves	GRN-2 DETAIL 8
16	9.504.1	Covering of duct openings and protection of mechanical equipment during construction	GRN-1 NOTE # 20
17	9.504.2	Finish material pollutant control	GRN-1 NOTE # 21
18	9.504.2.1	- Adhesives, sealants, caulks	GRN-1 FORM #11
19	9.504.2.2	- Paints and coatings	GRN-1 FORM #11
20	9.504.2.3	- Aerosol paints and coatings	GRN-1 FORM #11
21	9.504.2.4	- Verification	GRN-1 FORM # 2
22	9.504.3	Carpet systems	GRN-1 NOTE # 23-B
23	9.504.3.1	Carpet cushion	GRN-1 NOTE # 23-C

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CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY				2011 LOS ANGELES GREEN BUILDING CODE		FORM GRN 9			
ITEM #	CODE SECTION	REQUIREMENT	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note # or detail #)					
24	9.504.4	Resilient flooring systems	GRN-1	NOTE # 23 - D					
25	9.504.5	Composite wood products	GRN-1	NOTE # 23 - E					
26	9.505.2.1	Capillary break	N/A						
27	9.505.3	Moisture content of building materials	GRN-1	NOTE # 23 - G					
28	9.506.1	Bathroom exhaust fans	A-3.0, A-3.1, A-3.2	DRAWINGS & NOTES					
29	9.507.1	Whole house exhaust fans	N/A						
30	9.507.2	Heating and air-conditioning system design	GRN-1	NOTE # 23 - K					

 <p>LADBS DEPARTMENT OF BUILDING AND SAFETY</p>	<p>STORM WATER POLLUTION CONTROL (2011 Los Angeles Green Building Code)</p>	<p>FORM GRN 1</p>
<p>Storm Water Pollution Control Requirements for Construction Activities Minimum Water Quality Protection Requirements for All Construction Projects</p>		
<p><u>The following notes must be incorporated in the approved set of construction/grading plans and represents the minimum standards of good housekeeping which must be implemented on all construction projects.</u></p>		
<p>Construction means constructing, clearing, grading or excavation that result in soil disturbance. Construction includes structure teardown (demolition). It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, emergency construction activities required to immediately protect public health and safety, interior remodeling with no outside exposure of construction material or construction waste to storm water, mechanical permit work, or sign permit work. (Order No. 01-182, NPDES Permit No. CAS004001 – Part 5: Definitions)</p>		
<ol style="list-style-type: none">1. Eroded sediments and pollutants shall be retained on site and shall not be transported from the site via sheet flow, swales, area drains, natural drainage or wind.2. Stockpiles of earth and other construction-related materials shall be covered and/or protected from being transported from the site by wind or water.3. Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and shall not contaminate the soil nor the surface waters. All approved toxic storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of properly and shall not be washed into the drainage system.4. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained on the project site.5. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete waste on-site until it can be appropriately disposed of or recycled.6. Trash and construction-related solid wastes must be deposited into a covered receptacle to prevent contamination of storm water and dispersal by wind.7. Sediments and other materials shall not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the street/public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by any other means.8. Retention basins of sufficient size shall be provided to retain storm water runoff on-site and shall be properly located to collect all tributary site runoff.9. Where retention of storm water runoff on-site is not feasible due to site constraints, runoff may be conveyed to the street and the storm drain system provided that an approved filtering system is installed and maintained on-site during the construction duration.		
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GREEN BUILDING CODE NOTES:

PLANNING & DESIGN

4 - THE SITE PLAN SHALL BE PLANNED AND DEVELOPED TO KEEP SURFACE WATER FROM ENTERING BUILDINGS. CONSTRUCTION PLANS SHALL INDICATE HOW SITE GRADING OR DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS, CONTOUR LINES, ELEVATIONS, POINTS, AND/OR SLOPE ARROWS MAY BE USED TO SHOW COMPLIANCE WITH THIS REQUIREMENT.

ENERGY EFFICIENCY

5 - "EACH NEW APPLIANCES PROVIDED AND INSTALLED MEETS ENERGY STAR IF AN ENERGY STAR DESIGNATION IS APPLICABLE FOR THAT APPLIANCES"

WATER EFFICIENCY AND CONSERVATION

8 - "THE FLOW RATES FOR ALL NEWLY INSTALLED PLUMBING FIXTURE SHALL COMPLY WITH THE MAXIMUM FLOW RATES IN TABLE 9.303.2"

10 - WHEN SINGLE SHOWER FIXTURES ARE SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL THE SHOWERHEAD SHALL NOT EXCEED THE MAXIMUM FLOW RATES SPECIFIED IN THE MAXIMUM ALLOWABLE FLOW RATE COLUMN CONTAINED IN TABLE 9.303.2 OR THE SHOWER SHALL BE DESIGNED TO ONLY ALLOW ONE SHOWERHEAD TO BE IN OPERATION AT THE TIME."

11 - "THE INSTALLED AUTOMATIC IRRIGATION SYSTEM CONTROLLERS ARE WEATHER-OR SOIL BASED CONTROLLERS.

12 - BUILDING ADDITION OF 500 SQ.FT. OR MORE AND ON SITES WITH OVER 2,500 SQ.FT. OF CUMULATIVE IRRIGATED LANDSCAPED AREAS SHALL HAVE WEATHER-BASED OR SOIL MOISTURE-BASED IRRIGATION CONTROLLERS.

MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

13 - SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS, OR OTHER OPENINGS IN THE BUILDING'S ENVELOPE AT THE EXTERIOR WALLS WILL BE PROTECTED AGAINST THE PASSAGE OF RODENTS. (I.E. CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MANSORY OR METAL PLATES.)

15 - MATERIALS DELIVERED TO THE CONSTRUCTION SITE SHALL BE PROTECTED FROM RAIN OR OTHER SOURCES OF MOISTURE.

16 - CONSTRUCTION WASTE SHALL BE REDUCED BY 50%. DOCUMENTS ON PLANS HOW CONSTRUCTION WASTE WILL BE HANDLE:

☒ a. CITY OF LOS ANGELES CERTIFIED HAULER

☐ b. SOURCE SEPARATED ON SITE

17 - "AN OPERATION AND MAINTENANCE MANUAL INCLUDING, AT A MINIMUM, THE ITEMS LISTED IN SECTION 9.410.1, SHALL BE COMPLETED AND PLACED IN THE BUILDING AT THE TIME OF FINAL INSPECTION."

ENVIROMENTAL QUALITY

20 - "ALL DUCT AND OTHER REALATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH PLASTIC TAPE, PLASTIC, OR SHEET METAL UNTIL THE FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT."

21 - "ARCHITECTURAL PAINTS AND COATING, ADHESIVES, CAULK AND SEALANTS SHALL COMPLY WITH THE VOLATILE ORGANIC COMPOUND (VOC) LIMITS LISTED IN TABLES 9.504.1 - 9.504.3

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LA DBS
 DEPARTMENT OF BUILDING AND SAFETY

PLUMBING FIXTURE FLOW RATES

Residential Occupancies
 2011 Los Angeles Green Building Code
 (Incorporate this form into the plans)

**FORM
 GRN 16**

**TABLE 4.303.2
 FIXTURE FLOW RATES**

FIXTURE TYPE	FLOW RATE	MAXIMUM FLOW RATE AT > 20 percent
Showerheads	2.5 gpm @ 80 psi	2 gpm @ 80 psi
Lavatory faucets residential	2.2 gpm @ 60 psi	1.5 gpm @ 60 psi ²
Kitchen faucets	2.2 gpm @ 60 psi	1.8 gpm @ 60 psi
Gravity tank type water closets	1.6 gallons/flush	1.28 gallons/flush ¹
Flushometer tank water closets	1.6 gallons/flush	1.28 gallons/flush ¹
Flushometer valve water closets	1.6 gallons/flush	1.28 gallons/flush ¹
Urinals	1.0 gallons/flush	0.125 gallons/flush

**TABLE 9.303.2
 FIXTURE FLOW RATES**

FIXTURE TYPE	FLOW RATE	MAXIMUM ALLOWABLE FLOW RATE
Showerheads	2.5 gpm @ 80 psi	2 gpm @ 80 psi
Lavatory faucets residential	2.2 gpm @ 60 psi	1.5 gpm @ 60 psi
Gravity tank type water closets	1.6 gallons/flush	1.28 gallons/flush ¹
Flushometer tank water closets	1.6 gallons/flush	1.28 gallons/flush ¹
Flushometer valve water closets	1.6 gallons/flush	1.28 gallons/flush ¹
Urinals	1.0 gallons/flush	0.125 gallons/flush

¹Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.

Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.23.2.

Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.

²Lavatory Faucets shall not have a flow rate less than 0.8 gpm at 20 psi.

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VOC AND FORMALDEHYDE LIMITS

2011 Los Angeles Green Building Code
(Incorporate this form into the plans)

**FORM
GRN 11**

The tables below are taken from the

2011 Los Angeles Green Building Code

Tables 4.504.1, 4.504.2, 4.504.3, 4.504.4, 4.504.4.1, 4.504.4.2,
4.504.4.3, 4.504.4.5, 9.004.1, 9.004.2, 9.004.3, 9.004.5
10.504.4.1, 10.504.4.2, 10.504.4.3, 10.504.4.5

TABLE 4.504.3

VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS^{2,3}

Units of VOC: per 1 liter of Coating

Less Water and Less Exempt Compounds

COATING CATEGORY	EFFECTIVE 4/1/2012	EFFECTIVE 4/1/2012
Flat coatings	50	
Nonflat coatings	100	
Nonflat, high gloss coatings	150	
Specialty Coatings		
Aluminum roof coatings	400	
Resealed, sealed wood coatings	400	
Bituminous roof coatings	90	
Bituminous roof primers	350	
Brick sealers	400	
Concrete sealers	350	
Concrete/masonry sealers	100	
Driveway sealers	50	
Dry bag coatings	150	
Emulsion finishing coatings	350	
Epoxy resin coatings	350	
Floor coatings	100	
Fire-retardant compounds	250	
Grout/cracks coatings (sign sealers)	50	
High temperature coatings	420	
Industrial maintenance coatings	250	
Low-volatile coatings ¹	120	
Magnesium cement coatings	450	
Mastic liquid coatings	100	
Metallic pigmented coatings	500	
Multicolor coatings	250	
Protective and wear primers	420	
Primers, sealers, and undercoats	100	
Reactive penetrating sealers	350	
Resealed coatings	250	
Roof coatings	450	
Rust preventive coatings	400	250
Shellacs		
Clear	730	
Opaque	550	
Specialty primers, sealers and undercoats	350	100
Stains	250	
Stone consolidators	450	
Swimming pool coatings	350	
Traffic marking coatings	100	
Tub and tile finish coatings	420	
Waterproofing membranes	250	
Wood coatings	250	
Wood preservative sealers	350	
Zinc-rich coatings ¹	350	

¹ Units of VOC: per liter of coating, including water and including exempt compounds.
² The VOC level remains in effect until any released limits are listed in subsequent columns in the table.

³ VOCs that are to be derived from materials specified by the California Air Resources Board, Architectural Coatings Supported Coatings, February 1, 2008. More information is available from the Air Resources Board.

TABLE 4.504.1

ADHESIVE VOC LIMIT^{1,2}

Less Water and Less Exempt Compounds in Grams per Liter

ADHESIVE TYPE	CURRENT VOC LIMIT
Adhesive for carpet adhesives	50
Carpet pad adhesives	50
Conductor carpet adhesives	100
Wood flooring adhesive	100
Rubber floor adhesives	80
Surface adhesives	40
Ceramic tile adhesives	85
VCT and asphalt tile adhesives	50
Wood and sign adhesives	50
Concrete adhesives	50
Concrete adhesives	50
Multipurpose construction adhesives	70
Structural adhesive adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
ADHESIVE TYPICAL APPLICATIONS	
Adhesive for carpet	810
Carpet pad	490
Conductor carpet	490
Wood flooring	250
Adhesive for rubber	350
Adhesive for plastic	25
Contact adhesive	250
Special purpose contact adhesive	250
Structural wood member adhesive	140
Tie and trim adhesive	250
ADHESIVE TYPICAL SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic to metal	30
Plastic to plastic (except wood)	30
Wood to wood	30
Wood to plastic	30

¹ The table is used to help determine whether the adhesive meets the table's VOC content limit that is allowed.
² For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 116B.

TABLE 4.504.2

SEALANT VOC LIMIT¹

Less Water and Less Exempt Compounds in Grams per Liter


SEALANT TYPE	CURRENT VOC LIMIT
Architectural	250
Marine deck	750
Nonmembrane roof	200
Roofing	200
Single-ply roof membrane	450
Other	250
SEALANT PRIMERS	
Architectural	
Nonporous	250
Porous	775
Modified bituminous	500
Marine deck	750
Other	750

TABLE 4.504.5

FORMALDEHYDE LIMITS¹

Maximum formaldehyde emissions in parts per million

PRODUCT	CURRENT LIMIT	JAN. 1, 2012	JULY 1, 2012
Hardwood plywood veneer core	0.08		
Hardwood plywood composite core	0.07		0.05
Particleboard	0.08		
Medium density fiberboard	0.21		
Thin medium density fiber			



LA DBS
DEPARTMENT OF BUILDING AND SAFETY

VOC CONTENT VERIFICATION CHECKLIST
(2011 Los Angeles Green Building Code)

FORM
GRN 2

VOC content verification of paints, coatings, carpets, cushions, resilient flooring, adhesives, sealants, and caulks.


This form is required at final inspection. Attach product specification sheets and other supporting documents.
(Use additional sheets if necessary.)

Address: 217 S. MCCADDEN PL. LOS ANGELES, CA. 90004 Permit # 11014 10000 02877

Item #	Product Category (e.g. paint, carpet, sheetrock)	Product Manufacturer	Product Specification (e.g. model#)	VOC Content (in grams/liter) or Standard (e.g. Green Label Plus)	Allowable VOC Content (in grams/liters)

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FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST
(2011 Los Angeles Green Building Code)

FORM
GRN 3

Formaldehyde emissions verification of non-structural engineered wood, hardwood plywood, particleboard, and medium density fiberboard composite wood.

This form is required at final inspection. Attach product specification sheets and other supporting documents.
(Use additional sheets if necessary.)

Address: 217 S. MCCADDEN PL. LOS ANGELES, CA. 90004 Permit # 11014 10000 02877

Item #	Product Category (e.g. particleboard, hardwood plywood, etc.)	Product Manufacturer	Product Specification	Formaldehyde Content (in parts per million)	Formaldehyde Limits (in parts per million)

Revised 06-30-2011

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23 NOTES:

a. "THE VOC CONTENT VERIFICATION CHECKLIST, FORM 2, SHALL BE COMPLETED AND VERIFIED PRIOR TO FINAL INSPECTION APPROVAL. THE MANUFACTURER'S SPECIFICATIONS SHOWING VOC CONTENT FOR ALL APPLICABLE PRODUCTS SHALL BE READILY AVAILABLE AT THE JOB SITE AND BE PROVIDED TO FIELD INSPECTOR FOR VERIFICATION."

b. ALL NEW CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS OF ONE OF THE FOLLOWING:

- ☐ i. CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM
- ☐ ii. CALIFORNIA DEPARTMENT OF PUBLIC HEALTH STANDARD PRACTICE FOR TESTING OF VOCs (SPECIFICATION 01350)
- ☐ iii. NSF/ANSI 140 AT THE GOLD LEVEL
- ☐ iv. SCIENTIFIC CERTIFICATIONS SYSTEMS INDOOR ADVANTAGES™ GOLD

c. ALL NEW CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTE GREEN LABEL PROGRAM.

d. "50% OF THE TOTAL AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH THE VOC LIMITS OR BE CERTIFIED UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSCORE PROGRAM."

e. "NEW HARDWOOD PLYWOOD, PARTICLE BOARD, AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED IN THE INTERIOR OR EXTERIOR OF THE BUILDING SHALL MEET THE FORMALDEHYDE LIMITS LISTED IN TABLE 9.504.5

f. "THE FORMALDEHYDE EMISSION VERIFICATION CHECKLIST, FORM 3, SHALL BE COMPLETED PRIOR TO FINAL INSPECTION APPROVAL. THE MANUFACTURER'S SPECIFICATIONS SHOWING FORMALDEHYDE CONTENT FOR ALL APPLICABLE WOOD PRODUCTS SHALL BE READILY AVAILABLE AT THE JOB SITE AND BE PROVIDED TO THE FIELD INSPECTOR FOR VERIFICATION."

g. "BUILDING MATERIAL WITH VISIBLE SIGN OF WATER DAMAGE SHALL NOT BE INSTALLED. WALL AND FLOOR FRAMING SHALL NOT BE ENCLOSED UNTIL IT IS INSPECTED AND FOUND TO BE SATISFACTORY BY THE BUILDING INSPECTOR."

h. "NEWLY INSTALLED BATHROOM EXHAUST FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE TO THE OUTSIDE OF THE BUILDING"

i. "NEWLY INSTALLED BATHROOM EXHAUST FANS, NOT FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, MUST BE CONTROLLED BY HUMIDISTAT WHICH SHALL BE READILY ACCESSIBLE"

j. "NEW WHOLE HOUSE EXHAUST FANS SHALL HAVE COVERS OR LOUVERS WHICH CLOSE WHEN THE FAN IS OFF AND THAT ARE INSULATED WITH A MINIMUM INSULATION VALUE OF R-4.2."

k. "THE SIZE AND LAYOUT OF THE HEATING AND AIR-CONDITIONING SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH ACCA MANUAL J, ACCA 29-D AND ACCA 36-S, ASHRAE HANDBOOKS."

GRN-1	DATE: 10/24/11	GREEN BUILDING CODE FORM GRN 1, 9, 11 & 16 FORM GRN 2 & 3 GREEN BUILDING CODE NOTES
	SCALE:	