

## for Homes

## **LEED for Homes Mid-rise Project Checklist for California**

Builder Name:	Belmont Village
Project Team Leader:	Brent Covey, Belmont Village
Home Address (Street/City/State):	, Albany, California

**Project Description** 

**Adjusted Certification Thresholds** 

Building Type: *Mid-rise multi-family* # of stories: 4 Certified: 35.0 Gold: 65.0 # of Units: 176 Avg. Home Size Adjustment: -10.0 Silver: 50.0 Platinum: 80.0

	Project Point Total		Final Cred	lit Cate	gory P	oint T	otals	
	Prelim: 65.5 + 27 maybe pts Final: 0		ID:	0	SS:	0	EA: 0	EQ: 0
	Certification Level		LL:	0	WE:	0	MR: 0	AE: 0
	Prelim: Not Certified Final: Not Certified			Minin	num Point	Thresh	olds Not Met for Prelim. OR Final Rating	•
	Date Most Recently Updated:	Updated by:						
			Max Pts.	Preli	minary Ra	iting		Project
	∡ Indicates that an Accountability Form is required.		Available	Y / Pts	Maybe	No		Points
Innovati	on & Design Process (ID) (Minimum 0 ID Points Required)		Max: 11	Y:5	M:4		Notes	Final: 0
1. Integrat	ted Project Planning							
	1.1 Preliminary Rating		Prereq.	Y			Kick off mtg: 7/12/13	Y
	Target performance tier: Gold							
	1.2 Energy Expertise for MID-RISE		Prereq.	Υ				Y
	1.3 Professional Credentialed with Respect to LEED for Homes		1	0	0	N	please see ID 01-06 for details	0
	1.4 Design Charrette		1	1	0			0
	1.5 Building Orientation for Solar Design (meet all of the following)		1	0	0	Ν		0
	a) Glazing area on north/south walls 50% greater than on east/west walls		c) At least 45	0 sq. ft. of	south-facing	roof area	, oriented for solar applications	
	b) East-west axis is within 15 degrees of due east-west		d) 90% of so	uth-facing	glazing is sha	ided in su	mmer, unshaded in winter	
	1.6 Trades Training for MID-RISE		1	1	0			0
2. Quality	Management for Durability							
	2.1 Durability Planning (meet all of the following)		Prereq.	Y				
	a) Durability evaluation completed		d) Durability	strategies i	ncorporated	into proje	ct documentation	
	b) Strategies developed to address durability issues		e) Durability	measures li	sted in dural	oility inspe	ection checklist	
	igspace c) Moisture control measures from Table 1 incorporated							
	2.2 Durability Management (meet one of the following)		Prereq.	Y				
	Builder has a quality management process in place		Builder condu	ucted inspe	ction using d	urability i	nspection checklist	
	2.3 Third-Party Durability Management Verification		3	3	0		RW to complete	0

3. Innovative of	r Regional Design					
3.1	✓ Innovation 1 (ruling #):	1	0	1	Place holder for exmp	0
3.2	✓ Innovation 2 (ruling #):	1	0	1	Place holder for exmp	0
3.3	✓ Innovation 3 (ruling #):	1	0	1	Place holder for exmp	0
3.4	∠ Innovation 4 (ruling #):	1	0	1	LEED EB SSc5 - Creek	0
Location & I	Linkages (LL) (Minimum 0 LL Points Required)	Max: 10	Y:6	M:3	Notes	Final: 0
1. LEED for Ne	ighborhood Development					
1	LEED for Neighborhood Development	10	0	0	N	0
2. Site Selection	on					
2		2	2	0		0
	a) Built above 100-year floodplain defined by FEMA				parkland prior to acquisition	
	b) Not built on habitat for threatened or endangered species	e) Not built o	n land with	prime soils	, unique soils, or soils of state significance	
	c) Not built within 100 ft of water, including wetlands					
3. Preferred Lo						
3.1	Edge Development	1	0	0		0
OR 3.2	Infill	2	2	0		0
AND/OR 3.3	Brownfield Redevelopment for MID-RISE	1	0	0	N	0
	a) Site meets criteria as "contaminated" by ASTM E1903-97 Phase II	b) Site define	ed as "brow	nfield" by lo	cal, state, or federal government agency	
4. Infrastructu	re					
4	Existing Infrastructure	1	1	0		0
5. Community	Resources / Transit					
5.1	Basic Community Resources for MID-RISE (meet one of the following)	1	0	0		0
	a) Within 1/4 mile of 4 basic community resources	b) Within 1/2	mile of 7 l	oasic commu	unity resources	
OR 5.2	Extensive Community Resources for MID-RISE (meet one of the following)	2	0	0		0
	a) Within 1/4 mile of 7 basic community resources	b) Within 1/2	mile of 11	basic comm	nunity resources	
OR 5.3	Outstanding Community Resources for MID-RISE (meet one of the following)	3	0	3		0
	a) Within 1/4 mile of 11 basic community resources	b) Within 1/2	mile of 14	basic comm	nunity resource	
6. Access to O	pen Space					
6	Access to Open Space	1	1	0		0

Sustain	inable Sites (SS) (Minimum 5 SS Points Required)	Max: 22 Y:18 M:2 Notes	Final: 0
1. Site Ste	Stewardship		
	1.1 Erosion Controls During Construction (meet all of the following)	Prereq. Y	
	a) Stockpile and protect disturbed topsoil from erosion.	d) Provide swales to divert surface water from hillsides	
	$\overline{\sum}$ b) Control the path and velocity of runoff with silt fencing or equivalent.	$\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{$	
	$\overline{\sum}$ c) Protect sewer inlets, streams, and lakes with straw bales, silt fencing, etc.		
	1.2 Minimize Disturbed Area for MID-RISE (meet appropriate requirements)	1 1 0	0
	Where the site is not previously developed, meet all the following:		
	a) Develop tree / plant preservation plan with "no-disturbance" zones		
	b) Leave 40% of buildable lot area, not including area under roof, undisturbed		
	<b>OR</b> Where the site is previously developed, meet all the following:		
	c) Develop tree / plant preservation plan with "no-disturbance" zones AND		
	Rehabilitate lot; undo soil compaction and remove invasive plants AND		
	Meet the requirements of SS 2.2		
	OR d) Build on a lot to achieve a density of 40 units per acre.		
2. Landso	scaping		
	2.1    ∠ No Invasive Plants	Prereq. γ	
	2.2   Basic Landscaping Design (meet all of the following)	1 1 0	0
	a) Any turf must be drought-tolerant.	d) Add mulch or soil amendments as appropriate.	
	$\overline{igg }$ b) Do not use turf in densely shaded areas.	$\overline{\sum}$ e) All compacted soil must be filled to at least 6 inches.	
	$\overline{\sum}$ c) Do not use turf in areas with slope of 25%	_	
AND/OR	R 2.3 ∠ Limit Conventional Turf for MID-RISE	<b>2 2</b> 0	0
	Percentage of designed landscape softscape area that is turf		
AND/OR	R 2.4   Drought-Tolerant Plants for MID-RISE	1 1 0	0
	Percentage of installed plants that are drought-tolerant	Both points in SS 2.3 are met ( ≤ 20% turf)	
OR	R 2.5   Reduce Overall Irrigation Demand by at Least 20% for MID-RISE	<b>3 0</b> 0	0
	Percentage reduction in estimated irrigation water demand	(calculate)	
3. Reduce	ice Local Heat Island Effects		
	3.1   Reduce Site Heat Island Effects for MID-RISE (meet one)	1 0 1	0
	a) Locate trees / plantings to provide shade for 50% of hardscapes	b) Install light-colored, high-albedo materials for 50% of sidewalks, patios, and driveways	
	3.2   Reduce Roof Heat Island Effects for MID-RISE (meet one)	1 1 0	0
	a) Install roof with high albedo materials on 75% of roof area	c) Install combination of high albedo and vegetated roof	
	b) Install a vegetated roof for at least 50% of roof area	- · · · · · · · · · · · · · · · · · · ·	

4. Surfac	e Water Management			
	4.1   Permeable Lot for MID-RISE		<b>2 0</b> 0 N	0
	vegetative landscape			
	permeable paving			
	impermeable surfaces directed to on-sit	e infiltration features		
	other impermeable surfaces			
	4.2 Permanent Erosion Controls (meet one of the foli	owing)	1 0 1	0
	a) For portions of lot on steep slope, use terracing and re	taining walls	b) Plant trees, shrubs, or groundcover	
	4.3   Stormwater Quality Control for MID-RISE (mee	et one of the following)	2 2 0	0
	a) Stormwater mgmt plan designed in accordance with st	ate or local program	b) In-field performance monitoring data to demonstate compliance	
5. Nonto	xic Pest Control			
	5 Pest Control Alternatives (meet any of the following	ng, 1/2 pt each)	2     0 e) In 'moderate' to 'very heavy' termite risk areas:	0
	a) Keep all exterior wood at least 12" above soil		i) Treat all cellulosic material with borate product to 3' above foundation	
	b) Seal external cracks, joints, etc. with caulking and insta		ii) Install sand or diatomaceous earth barrier	
	c) Include no wood-to-concrete connections, or separate		iii) Install steel mesh barrier termite control system	
	d) Install landscaping so mature plants are 24" from hom	2	iv) Install non-toxic termite bait system	
			v) Use noncellulosic wall structure	
			vi) Use solid concrete foundation walls or pest-proof masonry wall design	
6. Compa	act Development			
	6.1 Moderate Density for MID-RISE		<b>2 0</b> 0	0
	# of total units on the lot	lot size (acres)	N/A density (units/acre)	
OR	6.2 High Density for MID-RISE		<b>3 0</b> 0	0
OR	6.3 Very High Density for MID-RISE		<b>4 4</b> 0	0
7. Alterna	ative Transportation			
	7.1 Public Transit for MID-RISE (meet one of the follows)		2 2 0	0
	a) Within 1/2 mile of transit services providing 30 rides pe	r weekday	b) Within 1/2 mile of transit services providing 60 rides per weekday	
	7.2 Bicycle Storage for MID-RISE		1 1 0	0
	secure, covered storage capacity (# of	bicycles)		
	7.3 Parking Capacity/Low-Emitting Vehicles for MID-I	RISE (meet one)	1 1 0	0
	a) Provide low-emitting, fuel-efficient vehicles for 3% of t	ne total parking capacity	d) Size parking to not exceed min zoning req'ts, AND	
	b) 5% of total capacity is preferred parking spots for low-	emitting vehicles	Provide infrastructure to facilitate shared vehicle usage	
	c) Alternative-fuel refueling stations for 3% of total vehicl	e capacity	e) Provide no new parking	_

Water Efficiency (WE) (Minimum 3 WE Points Required)	Max: 15	Y:7	M:2	Notes	Final: 0
1. Water Reuse					
1	5	0	1		0
of total water demand offset by water reuse strategies (mark any/all strategies adopted)	Rainwater had Graywater red Municipal reco	ise			
2. Irrigation System					
2.1  ∠ High-Efficiency Irrigation System for MID-RISE (meet any, 0.5 pt each)	2	2	0		0
a) Irrigation system designed by EPA Water Sense certified professional b) Irrigation system with head-to-head coverage c) Install central shut-off valve d) Install submeter for the irrigation system e) Use drip irrigation for 50% of planting beds f) Create separate zones for each type of bedding  OR 2.2 Reduce Overall Irrigation Demand by at Least 45% for MID-RISE	h) Install pres i) High-efficie j) Install chec	sure-regula ncy nozzles k valves in l sture sensor	with distribution uniformity of a	t least 0.70.	o
0% Percentage reduction in estimated irrigation water demand (see SS 2.5)					
3. Indoor Water Use					
a) Average flow rate of lavatory faucets is ≤ 2.00 gpm  b) Average flow rate for all showers is ≤ 2.00 gpm per stall	Toilets are	dual-flush;	0 all toilets is ≤ 1.30 gpf; OR : OR Water Sense specification		0
3.2 Very High-Efficiency Fixtures and Fittings (meet any, 2 pts each)	6	4	0		0
a) Average flow rate of lavatory faucets is ≤ 1.50 gpm; OR  Lavatory faucets meet the EPA Water Sense specification			all showers $\leq 1.75$ gpm per stall toilets is $\leq 1.10$ gpf		
3.3 Water Efficient Appliances for MID-RISE (meet any of following, 1 pt each)	2	0	1		0
a) Water-efficient clothes washers with MEF $\geq$ 2.0 and WF $<$ 5.5	b) ENERGY S	AR dishwas	sher(s) that use $\leq$ 6.0 gallons p	er cycle	

Energy	& At	mosphere (EA) (Minimum 0 EA Points Required)	Max: 38	Y:13	M:5	Notes	Final: 0
1. Optim	ize En	nergy Performance in Mid-rise Buildings					
	1.1	Minimum Energy Performance for MID-RISE in CA (meet all of the following)	Prereq.	Y			
		Energy performance exceeds Title-24 2008 by 15% or more	Energy mode	ling conduct	ted by current CEPE or CE	ĒΑ	
		Energy improvements verified by HERS Rater	Energy mode	l submitted	and reviewed by USGBC		
	1.2	Testing and Verification for MID-RISE	Prereq.	Y			
	1.3	Optimize Energy Performance for MID-RISE in CA	24	9	0		0
		0.0% % savings compared with Title-24 2008	(calculate)				
8. Lightir	ng						
	8.1	Basic Lighting	Prereq.	Y			
	8.2	Advanced In-Unit Lighting (meeting one of the following)	3	3	0		0
		a) Meet Title-24 w/ high-efficacy lighting throughout	c) Meet Title-	-24 w/ contro	rols AND use 90% ENERGY	Y STAR lamps	
		b) Meet Title-24 w/ controls AND use 60% ENERGY STAR fixtures					
10. Rene	wable	Energy					
l	10	✓ Renewable Energy System	10	0	5		0.0
ſ		Percentage of annual reference energy load supplied by renewable system	<u> </u>				_
		(calculate)					
11 Posi	Iontia	I Refrigerant Management					
11. 1353		Refrigerant Charge Test	Prereq.	Υ			
		Appropriate HVAC Refrigerants (meet one of the following)	1	1	0		0
		a) Use no refrigerants	C) Use refrige	erants that c	complies with global warm	ning notential equation	
		b) Use non-HCFC refrigerants		Julio ciuc s	ompiles was global starring	ing potential equation	
B.F. v.L.s. mile			14 4C	\\ 0.F	14.5	Natao	F' : . l. 0
Materia	IS &	Resources (MR) (Minimum 2 MR Points Required)	Max: 16	Y:8.5	IVI:5	Notes	Final: 0
1. Materi		icient Framing					
	1.1	5	Prereq.	Υ			
	1.2	Detailed Framing Documents	1	1	0		0
AND/OR	1.3	Detailed Cut List and Lumber Order	1	1	0		0
		Requirements of MR 1.2 have been met	Detailed cut I	ist and lumb	ber order corresponding to	o framing plans or scopes	
AND/OR	1.4	Framing Efficiencies (meet any of the following, see Rating System for pts)	3	0	3		0
		Precut framing packages	Stud spacing				I
		Open-web floor trusses			ter than 16" on center		
		Structural insulated panel walls			er than 16" on center		
		Structural insulated panel roof			ter than 16" on center		
		Structural insulated panel floors	Two of the fo	ollowing: Size		er blocking; drywall clips; 2-stud corners	
OR	1.5	Off-site Fabrication (meet one of the following)	4	0	0 N		0
l		a) Panelized construction	b) Modular, p	refabricated	d construction		

2. Environmen	itally Preferable Products					
2.1		the following)	Prereq.	Υ		
	a) Provide suppliers with a notice of preference for	FSC products; AND	b) No tropical	wood installed (exceptions for FSC-certified o	or reclaimed wood)	
	Request country of manufacture for each wood					
2.2	Environmentally Preferable Products (me	et any, 1/2 pt each)	8	4 2	0	
	Assembly : component	(a) EPP		(b) Low emission	(c) Local production	
	Exterior wall: framing Exterior wall: siding or masonry Floor: flooring	type: type: (45%) type:		90% hard flooring	(45%)	
	Floor: flooring Floor: flooring Floor: framing	(90%) type:		SCS FloorScore Green Label Plus	(90%)	
	Foundation: aggregate Foundation: cement Interior wall: framing Interior wall, ceiling: gypsum board	type: type: type: type: type:				
	Interior wall, ceiling, millwork: paint Landscape: decking and patio Other: cabinet Other: counter	type: type: type: type: type:		type:		
	Other: door Other : interior trim Other : adhesive, sealant	type: type:		type:		
	Other : window frame Roof: framing Roof: roofing Roof, floor, wall: cavity insulation	type: type: type: type:		☐ type:		
	Roof, floor, wall (2 of 3): sheathing Other: water supply piping Other: driveway	type: type: type:				
3. Waste Mana	gement					
3.1	Construction Waste Management Planning (	meet both of the following)	Prereq.	Y		
	a) Investigate local options for waste diversion		b) Document of	diversion rate for construction waste		
3.2	Construction Waste Reduction (use one of the	he following methods)	3	2.5 0	0	
	a) pounds waste / square foot					
	cubic yards waste / 1,000 squar	re feet				
	b) percentage of waste diverted					

Indoor Environmental Quality (EQ) (Minimum 6 EQ Points Required)	Max: 21 Y:5 M:6 Notes	Final: 0
2. Combustion Venting		
2 Basic Combustion Venting Measures for MID-RISE (meet all the following)	Prereq. Y	
a) no unvented combustion appliances	d) space, water heating equipment designed with closed combustion; OR	
b) carbon monoxide monitors on each floor of each unit	space and water heating equipment has power-vented exhaust; OR	
c) no fireplace installed, OR	space and water heating equipment located in detached or open-air facility; OR	
all fireplaces and woodstoves have doors	no space- or water-heating equipment with combustion	
3. Moisture Control		
3 Moisture Load Control (meet one of the following)	1 0 1	0
a) Additional dehumidification system	b) HVAC system equipped with additional dehumidification mode	
4. Outdoor Air Ventilation		
4.1   Basic Outdoor Air Ventilation for MID-RISE (meet all of the following)	Prereq. γ	
a) ASHRAE 62.2-2007 met for all in-unit spaces	) ASHRAE 62.1-2007, Sections 4 through 7 met for residential-associated spaces	
4.2 Enhanced Outdoor Air Ventilation for MID-RISE	<b>2 0</b> 0	0
4.3 Third-Party Performance Testing for MID-RISE	1 1 0	0
5. Local Exhaust		
5.1   Basic Local Exhaust for MID-RISE (meet all of the following)	Prereq. γ	
a) In-unit bathrooms and kitchens meet ASHRAE 62.2-2007 air flow requirements	d) ENERGY STAR labeled bathroom exhaust fans OR	
b) Fans and ducts designed and installed to ASHRAE Std. 62.2	Multi-port bathroom exhaust systems installed	
$\overline{\overline{\mathbb{X}}}$ c) Air exhausted to outdoors through roof or outside wall	e) Common bathrooms and kitchens meet ASHRAE 62.1-2007 air flow requirements	
5.2 Enhanced Local Exhaust (meet one of the following)	1 1 0	0
a) Occupancy sensor	c) Automatic timer tied to switch to operate fan for 20+ minutes post-occupancy	
b) Automatic humidistat controller	$\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{$	
5.3 Third-Party Performance Testing for MID-RISE	1 1 0	0

6. Distrib	ution	of Space Heating and Cooling				
	6.1		Prereq.	Y		
	6.2	Return Air Flow / Room-by-Room Controls (meet one of the following)	1	0	1	
		A. Forced-Air Systems	B. Nonducted	HVAC Sy	Systems	
		a) Return air opening of 1 sq. inch per cfm of supply	Flow control v		•	
		b) Limited pressure differential between closed room and adjacent spaces	Radiant floor	system with	th thermostatic controls in every room	
	6.3	Third-Party Performance Test / Multiple Zones (meet one of the following)	2	0	2	
		A. Forced-Air Systems	B. Nonducted	-		
		Have supply air flow rates in each room tested and confirmed	Install at least	t two distino	nct zones with independent thermostat control	
7. Air Filt	tering					
	7.1	Good Filters	Prereq.	Υ		
	7.2	Better Filters	1	0	0	
OR	7.3	Best Filters	2	0	0	
8. Contai	minar	nt Control				
	8.1	∠ Indoor Contaminant Control during Construction	1	1	0	
	8.2	Indoor Contaminant Control for MID-RISE (meet any of following, 1 pt each)	2	0	0 N	
· ·		a) Install permanent walk-off mats for each unit	b) In each un	it, design sl	shoe removal and storage space near primary entryway	
		Install central entryway system	c) In each uni	it, install ce	entral vacuum system with exhaust to outdoors	
	8.3	✓ Preoccupancy Flush	1	1	0	
9. Radon	Prote	ection				
	9.1		Prereq.	Υ		
	9.2		1	0	0	
10. Gara	ae Po	Ilutant Protection				
	_	No HVAC in Garage	Prereq.	Υ		
	10.2	Minimize Pollutants from Garage for MID-RISE (meet all of the following)	2	0	2	
· '		a) In conditioned spaces above garage:	c) Vestibule to	o provide ai	airlock between garage and adjacent spaces; OR	
		Seal all penetrations and connecting floor and ceiling joist bays	=		doors and deck-to-deck partitions	
		b) In conditioned spaces next to garage	d) Continuous	s exhaust in	n garage	
		Weather-strip all doors	<del></del> 1			
		Carbon monoxide detectors in rooms that share a door with garage				
		Seal all penetrations and cracks at the base of walls				
OR	10.3	Detached Garage or No Garage	3	0	0	

11. Environn	mental Tobacco Smoke Control		
1	1 Env. Tobacco Smoke Reduction for MID-RISE (meet part (a) or (b) below)	<b>1 0</b> 0 N	0
	a) Reduce smoke exposure and transfer (1/2 point)	b) Prohibit smoking throughout the building (1 points)	
	Prohibit smoking in all common areas	Prohibit smoking within living units	
	Any exterior smoking areas are > 25 ft from entries, air intakes, windows	Prohibit smoking in all common areas of the building	
	Prohibit on-property smoking within 25 feet of entries, intakes, windows	Any exterior smoking areas are > 25 ft from entries, air intakes, windows	
	Prohibitions communicated through lease agreements, CC&Rs, signage	Prohibitions communicated through lease agreements, CC&Rs, signage	
12. Compart	tmentalization of Units		
12	2.1 Compartmentalization of Units (meet both of the following)	Prereq. Υ	
	a) Air-seal and/or weather-strip all walls, chases, doors, windows, etc.	b) Demonstrate minimal leakage of 0.30 CFM50 per square foot of enclosure	
12	2.2 Enhanced Compartmentalization of Units	1 0 0	0
	s & Education (AE) (Minimum 0 AE Points Required)	Max: 3 Y:3 M:0 Notes	Final: 0
1. Education	n of the Homeowner or Tenant	maxic no mo	Final: 0
1. Education	n of the Homeowner or Tenant  1	Prereq. Y	Final: 0
1. Education	n of the Homeowner or Tenant	maxic no mo	Final: 0
1. Education	n of the Homeowner or Tenant  1	Prereq. Y	Final: 0 0
1. Education 1.	n of the Homeowner or Tenant  1  Basic Operations Training (meet both of the following)  a) Operations and training manual	Prereq. Y	Final: 0 0 0
1. Education 1.	n of the Homeowner or Tenant  1  Basic Operations Training (meet both of the following)  2  Enhanced Training	Prereq. Y	Final: 0 0 0
1. Education 1.	n of the Homeowner or Tenant  1	Prereq. Y	0 0
1. Education 1. 1. 1.	n of the Homeowner or Tenant  1	Prereq. Y    Description of the project   Presequence   Pr	0 0
1. Education 1. 1. 1.	a) Operations and training (meet both of the following)  □ a) Operations and training manual  2	Prereq. Y    Description of the project   Presequence   Pr	0 0
1. Education 1. 1. 1.	n of the Homeowner or Tenant  .1	Prereq. Y    Description of the project   Presequence   Pr	0 0