

IECC 2009 with Hawaii Amendments

COMMERCIAL PLAN REVIEW CHECKLIST

Project: _____

Code Section	Description	Plan review
GENERAL REQUIREMENTS		
103.1	Construction documents	<input type="checkbox"/> Signed statement on plans
ENVELOPE REQUIREMENTS		
502.1	Roof – insulation entirely above deck Roof – metal building Roof – attic or other <ul style="list-style-type: none"> • Table 502.2(1) insulation R-value • Table 502.1.2 U-factor • 502.2.1 Cool roof exception 	<input type="checkbox"/> Insulation location on plans <input type="checkbox"/> R-value on plans <input type="checkbox"/> Cool roof specifications, if applicable
502.1	Wall – mass Wall – metal building Wall – metal framed Wall – wood framed and other <ul style="list-style-type: none"> • Table 502.2(1) insulation R-value • Table 502.1.2 U-factor 	<input type="checkbox"/> Insulation location on plans <input type="checkbox"/> R-value indicated on plans
502.3.1	Windows – maximum area <ul style="list-style-type: none"> • 40% of gross wall area 	
502.3.2	Windows – solar heat gain <ul style="list-style-type: none"> • SHGC ≤ 0.25 if projection factor < 0.25 • SHGC ≤ 0.33 if projection factor $0.25-0.50$ • SHGC ≤ 0.40 if projection factor ≥ 0.50 • Area-weighted average 	<input type="checkbox"/> SHGC indicated on plans <input type="checkbox"/> Overhang dimensions on plans, if applicable
502.3.1	Skylights – maximum area <ul style="list-style-type: none"> • 3% of gross roof area 	
502.3.2	Skylights – solar heat gain <ul style="list-style-type: none"> • SHGC ≤ 0.35 • Area-weighted average 	<input type="checkbox"/> SHGC indicated on plans
502.3.2	Skylights – U-factor <ul style="list-style-type: none"> • U-factor ≤ 0.75 	<input type="checkbox"/> U-factor indicated on plans
502.4	Air leakage <ul style="list-style-type: none"> • 502.4.1 Window and door assemblies • 502.4.2 Curtain wall, storefront glazing and commercial entrance doors • 502.4.3 Sealing of the building envelope • 502.4.4 Outdoor air intakes and exhaust openings • 502.4.6 Loading dock weatherseals • 502.4.8 Recessed lighting 	<input type="checkbox"/> Sealing requirements indicated on plans, if applicable

Code Section	Description	Plan review
MECHANICAL SYSTEM REQUIREMENTS		
503.2.1	Calculation of heating and cooling loads	
503.2.2	Equipment and system sizing	
503.2.3	HVAC equipment performance requirements <ul style="list-style-type: none"> • Tables 503.2.3(1)-(8) 	<input type="checkbox"/> Equipment capacity and efficiency indicated on plans
503.2.4	HVAC system controls <ul style="list-style-type: none"> • 503.2.4.1 Thermostatic control • 503.2.4.3 Off-hour control • 503.2.4.4 Shutoff damper controls 	<input type="checkbox"/> Indicated on plans, if applicable.
503.2.5	Ventilation <ul style="list-style-type: none"> • Outdoor air ventilation per IMC • 503.2.5.1 Demand controlled ventilation 	<input type="checkbox"/> Outdoor air ventilation rate indicated on plans <input type="checkbox"/> Demand controlled ventilation indicated on plans, if applicable
503.2.6	Energy recovery ventilation systems <ul style="list-style-type: none"> • Required for some systems • Exceptions 	<input type="checkbox"/> Energy recovery system indicated on plans if applicable
503.2.7	Duct and plenum insulation and sealing <ul style="list-style-type: none"> • Exception for ducts in conditioned space • Exception for T difference $\leq 15F$ 	<input type="checkbox"/> Insulation R-value on plans, if applicable
503.2.8	Piping insulation <ul style="list-style-type: none"> • Exception for piping within equipment • Exception for fluid T 55F to 105F 	<input type="checkbox"/> Insulation R-value on plans, if applicable
503.2.9	HVAC system completion <ul style="list-style-type: none"> • System commissioning • Commissioning plan • Systems adjusting and balancing 	<input type="checkbox"/> Drawing notes include commissioning and completion requirements (Statement of completion required prior to certificate of occupancy.)
503.2.10	Air system design and control <ul style="list-style-type: none"> • Allowable fan horsepower • Motor nameplate horsepower 	<input type="checkbox"/> Fan airflow on plans <input type="checkbox"/> Motor horsepower on plans

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COMPLEX HVAC SYSTEMS REQUIREMENTS		
503.4.2	VAV fan control <ul style="list-style-type: none"> VSD for fan motors \geq 10 hp 	<input type="checkbox"/> Fan motor horsepower on plans <input type="checkbox"/> VSD control indicated on plans, if applicable
503.4.3	Hydronic system controls <ul style="list-style-type: none"> 503.4.3.4 Part load controls 503.4.3.5 Pump isolation 	<input type="checkbox"/> Sequence of operations describes flow control method and pump isolation control, if applicable
503.4.4	Heat rejection equipment fan speed control <ul style="list-style-type: none"> Cooling tower fans \geq 7.5 hp 	<input type="checkbox"/> Cooling tower fan motor horsepower on plans <input type="checkbox"/> Fan control method indicated on plans, if applicable
503.4.5	Systems serving multiple zones <ul style="list-style-type: none"> Variable air flow Supply air temperature reset control Exceptions 	<input type="checkbox"/> Maximum and minimum flow for all variable-air-volume terminal units indicated on plans
503.4.6	Heat recovery for service water heating <ul style="list-style-type: none"> Where cooling $>$6,000,000 Btu/hr & water heating $>$1,000,000 Btu/hr Exceptions 	
503.4.7	Hot gas bypass limitation <ul style="list-style-type: none"> Exception for capacity \leq90,000 Btu/hr 	<input type="checkbox"/> Hot-gas bypass limitation indicated on plans, if applicable
SERVICE WATER HEATING REQUIREMENTS		
504.2	Service water-heating equipment efficiency <ul style="list-style-type: none"> Table 504.2 	<input type="checkbox"/> Equipment efficiency on plans
504.3	Temperature controls <ul style="list-style-type: none"> Dwelling units Public lavatories Other occupancies 	<input type="checkbox"/> Temperature setpoint capability on plans
504.4	Heat traps <ul style="list-style-type: none"> Heat trap required, or Integral heat trap 	<input type="checkbox"/> Heat trap(s) indicated on plans
504.5	Pipe insulation <ul style="list-style-type: none"> Circulating systems Non-circulating systems 	<input type="checkbox"/> Insulation location and R-value on plans
504.6	Heat water system controls <ul style="list-style-type: none"> Auto or manual control for circulators and heat trace 	<input type="checkbox"/> Control capability on plans.
504.7.1	Pool heaters <ul style="list-style-type: none"> Readily accessible switch No continuous pilot light 	<input type="checkbox"/> Indicated on plans, if applicable.
504.7.2	Pool time switch <ul style="list-style-type: none"> Exceptions 	<input type="checkbox"/> Indicated on plans, if applicable.
504.7.3	Pool cover <ul style="list-style-type: none"> Required for all heated pools Exception for solar and waste heat 	<input type="checkbox"/> Indicated on plans, if applicable.

Code Section	Description	Plan review
LIGHTING REQUIREMENTS		
505.1	Dwelling unit lighting <ul style="list-style-type: none"> Lighting equipment $\geq 50\%$ high efficacy 	<input type="checkbox"/> Lighting fixture locations included on plans <input type="checkbox"/> Lighting fixture schedule indicating lamp and ballast type on plans
505.2.2.1	Interior lighting controls <ul style="list-style-type: none"> Manual control for each space Exceptions 	<input type="checkbox"/> Controls for each space indicated on plans
505.2.2.1	Light reduction controls <ul style="list-style-type: none"> Reduce by $\geq 50\%$ Exceptions 	<input type="checkbox"/> Controls for each space indicated on plans
505.2.2.2	Automatic shutoff <ul style="list-style-type: none"> Time of day or motion sensor Exceptions 	<input type="checkbox"/> Controls indicated on plans.
505.2.2.3	Daylight zone control <ul style="list-style-type: none"> Adjacent to vertical fenestration Under skylights Exceptions 	<input type="checkbox"/> Lighting circuiting and control indicated on plans.
505.2.3	Sleeping unit controls <ul style="list-style-type: none"> Control of t-stat, lights, outlets Keycard, sensor or electronic control Cooling interlock for balcony or patio doors 	<input type="checkbox"/> Controls indicated on plans
505.2.4	Exterior lighting controls <ul style="list-style-type: none"> Dawn-to-dusk lighting Other lighting 	<input type="checkbox"/> Controls indicated on plans
505.3	Tandem wiring <ul style="list-style-type: none"> Applies to fixtures with both magnetic ballasts and odd number of lamps 	<input type="checkbox"/> Indicated on plans, if applicable
505.4	Exit signs <ul style="list-style-type: none"> ≤ 5 watts per face 	<input type="checkbox"/> Indicated in fixture schedule
505.5	Interior lighting power requirements <ul style="list-style-type: none"> 505.5.1 Connected lighting power 505.5.2 Allowed lighting power 	<input type="checkbox"/> All fixtures located and identified on plans <input type="checkbox"/> Fixture schedule includes input power for each fixture
505.6.1	Exterior building grounds lighting <ul style="list-style-type: none"> Efficacy ≥ 60 lumens/watt for fixtures > 100 watts 	<input type="checkbox"/> Fixture schedule includes input power and lamp lumen output
505.6.2	Exterior building lighting power <ul style="list-style-type: none"> Allowance per Table 505.6.2(2) Exceptions 	<input type="checkbox"/> All fixtures located and identified on plans. <input type="checkbox"/> Fixture schedule includes input power for each fixture.

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