2013 CMC – MECHANICAL PLAN CHECK CORRECTION LIST (With 2008 Energy Code)

County of Orange

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A. GENERAL REQUIREMENTS:

A.1 Plans shall bear the license number and signature of an architect, engineer or contractor licensed in the appropriate discipline.

A.2 Show job address on plans.

A.3 Show equipment schedule on the plans.

A.4 Show the make, model, cfm, horsepower, static pressure rating and weight of each fan on the equipment schedule.

A.5 Show location, size, gages, and materials of all ducts and openings (CMC 601.2; CMC 602.1; CMC 112.3 (1) (B); CMC Table 506.2(1))

A.6 Ducts shall be constructed in accordance with Chapter 6 of the California Mechanical Code.

A.7 Show the occupancy of each area.

A.8 Show the intended use of each room.

A.9 Identify all fire-rated walls and ceilings.

A.10 Provide roof plans showing the location of all roof equipment. (CMC 303.9)

A.11 Provide a permanent roof access. (CMC 304.2)

A.12 Provide approved structural plans showing that the roof is designed to withstand all dead loads and all required live loads. (CMC.303.9.1)

A.13 Where ducts penetrate a rated corridor, indicate if rated corridors are tunnel type or full height.

B. VENTILATION

B.1 Single family houses and multi-family structures of three stories or fewer above grade shall comply with ASHRAE 62.2, 2010 edition, or Chapter 4 of California Mechanical Code. (CMC 402.1.2)

B.2 Natural ventilation and mechanical ventilation systems shall be designed in accordance with Sections 402.2 and 403.0, respectively. (CMC 402.2; CMC 403.0)

B.3 Exhaust ducts under positive pressure and venting systems shall not extend into or pass through ducts or plenums. (CMC 504.1)

B.4 Make-up air shall be provided for all rooms with exhaust. (CMC 505.3)

B.5 Environmental exhaust ducts shall terminate outside the building and shall be equipped with a back draft damper. (CMC 504.1)

B.6 Exhaust outlets shall terminate no less than 3 feet from property line and 3 feet from openings into the building. (CMC 504.5)

B.7 Exhaust outlets for product conveying systems shall terminate no less than 10 feet from property line, 3 feet from exterior roof/wall, 10 feet from openings into the building, and 10 feet above grade. (CMC 506.9(2))

B.8 Exhaust outlets for ducts conveying explosive or flammable vapors, fumes, or dust shall terminate at least 30 feet from property line, 6 feet from exterior roof/wall, 10 feet from opening into the building, 30 feet from combustible walls or openings into the building that are in the direction of the exhaust discharge, and 10 feet above grade. (CMC 506.9.1)

B.9 Ducts conveying explosives or flammable vapors, fumes, or dusts shall extend directly to the exterior of the building without entering other spaces. (CMC 505.1)

B.10 Provide calculations showing how the system is balanced. The system shall be designed by the constant velocity or equal friction methods. (CMC 505.2)

B.11 Systems conveying particulate matter shall be designed employing the constant velocity method. (CMC 505.2)

C. AIR-CONDITIONING

C.1 Provide a secondary condensate drain (watertight pan) for cooling coils installed above the ceiling or in furred spaces. The secondary drain shall terminate in a visible location. (CMC 312.2)

C.2 Flexible ducts shall not penetrate fire-rated assemblies. (CBC 717.7)

C.3 Flexible ducts shall not penetrate walls. (CBC 717.7)

C.4 Flexible ducts shall not penetrate any floor. (CBC 717.7)

C.5 Flexible ducts shall not penetrate ceilings. (CBC 717.7)

C.6 Provide listed duct type smoke detectors in the supply air ducts in every air-conditioning system with a capacity in excess of 2,000 cfm (Multiple units serving the same room, or having a common return air plenum or a common outside air duct are considered to be one system for the determination of the cfm). In lieu of duct type smoke detectors, complete coverage area detectors may be installed. (CMC 608.1)

C.7 Provide listed duct type smoke detectors in the supply and return air ducts of each air-conditioning unit. (CBC 907.2.13.1.2(1); CBC 907.2.18.1(3))

C.8 Provide listed duct type smoke detectors at each connection to a vertical duct or riser serving two or more stories from a return duct or plenum of an air-conditioning system. (CBC 907.2.13.1.2(2); CBC 907.2.18.1(4))

C.9 Make-up air is not allowed to be taken from the corridor. (CMC 602.1)

C.10 Do not pressurize the corridor. Corridors shall have supply air inlets and exhaust air outlets. (CMC 602.1)

C.11 Provide make-up air in the corridor. (CMC 602.1)

a. Provide a minimum of one air inlet and one outlet in each section of corridor isolated by doors. (CMC 602.1)

C.12 Provide listed fire dampers at all duct penetrations through fire-rated walls and barriers. (CMC 605.2; CBC 717.6.1; CBC 717.5.1; CBC 717.5.2)

C.13 Provide listed combination smoke/fire dampers at all duct penetrations through fire-rated shafts. (CMC 605.1; CMC 605.2; CBC 717.5.3)

C.14 Provide listed fire radiation dampers at all duct penetrations through fire-rated floor/ceiling or roof/ceiling assemblies. (CMC 605.3, CBC 717.6.1, CBC 717.6.2(2))

C.15 Fire dampers shall be dynamic type. (CMC 605.2)

C.16 Install a duct type smoke detector within 5 feet of each smoke damper. (CBC 717.3.3.2(1))

C.17 Provide a copy of the manufacturer's catalogs for the mechanical equipment used. (CMC 112.2(5))

C.18 Show on the plans that the air filters have a Minimum Efficiency Reporting Value (MERV) of 8 or higher. (CGBC5.504.5.3) (Nonresidential Buildings)

D. TOILET ROOM VENTILATION

D.1 Toilet exhaust ducts shall be made out of metal. (CMC 504.1)

D.2 Toilet exhaust ducts under positive pressure shall not extend into or pass through ducts or plenums. (CMC 504.1; CMC 602.1)

D.3 Toilet exhausts shall terminate at least 3 feet from the property line, 3 feet from openings into any building, and 10 feet from mechanical air intakes. (CMC 504.5; CMC 314.3(1))

D.4 Toilet rooms in commercial buildings shall have a ventilation system capable of exhausting 50 cfm per water closet or urinal. (70 cfm in assembly occupancies and schools). (CMC Table 403.7)

a. Provide mechanical ventilation in each bathroom. (LAMC 402.5)

D.5 Toilet rooms in residential occupancies shall exhaust 25 cfm if operating continuously or 50 cfm if operating intermittently. (CMC Table 403.7)

a. State on the plans whether the toilet room ventilation system is designed for continuous or intermittent operation. (CMC Table 403.7)

D.6 Provide listed combination fire smoke dampers where the bathroom exhaust duct penetrates a fire-rated shaft. (CBC 717.5.1; CBC 717.5.2)

D.7 Provide listed fire dampers where the bathroom exhaust duct penetrates fire-rated walls and barriers. (CBC 716.5.1; CBC 716.5.2)

E. LAUNDRY ROOM VENTILATION

E.1 Exhaust duct for domestic dryers shall be 4 inches minimum and shall not exceed a total length of 14 feet including two 90º elbows. Two feet shall be deducted for each 90º elbow in excess of two. (CMC 504.3.1; CMC 504.3.1.2)

E.2 Provide an approved *"Request for Modification of Building Ordinances"* form allowing the dryer vent to exceed 14 feet. (CMC 504.3.1.2)

E.3 Clothes dryer moisture exhaust ducts shall be made out of metal. (CMC 504.3.1.1)

E.4 Laundry room exhaust ducts shall be made out of metal. (CMC 504.1; CMC 602.1)

E.5 Laundry room ventilation exhaust shall terminate at least 3 feet from property line, 3 feet from openings into the building, and 10 feet from make-up air inlets. (CMC 504.5, CMC 314.3)

E.6 Clothes dryer moisture exhaust ducts under positive pressure shall not extend into or pass through ducts or plenums. (CMC 504.3)

E.7 Laundry room exhaust ducts under positive pressure shall not extend into or pass through ducts or plenums. (CMC 602.1; CMC 504.1)

E.8 Calculate the laundry room ventilation requirement. (Residential occupancies up to 3 stories above grade use ASHRAE 62.2; Residential occupancies over 3 stories above grade use Title 24 Table 121-A; Hotels, motels, resorts, and dormitories use CMC Table 402.1)

E.9 Clothes dryer moisture exhaust ducts shall terminate outside of the building. (CMC 504.3)

E.10 Clothes dryer moisture exhaust ducts shall be equipped with back draft dampers. (CMC 504.3)

E.11 Provide make-up air to the laundry room. (CMC 402.1; CMC 504.3.1)

E.12 Make-up air is not allowed to be taken from the corridor. (CMC 602.1)

E.13 Laundry room make-up air shall take into consideration the air exhausted by the dryers. (CMC 905.3)

E.14 Provide product literature for the clothes dryer showing the criteria to size the moisture exhaust duct. (CMC 504.3.2)

E.15 Provide an approved *"Request for Modification of Building Ordinances"* form allowing the use of a draft inducer. (CMC 504.3.1.2)

E.16 Provide product literature for the draft inducer showing pressure losses versus flow. (CMC 112.3.1H)

E.17 Provide combustion air. (CMC 701.1)

E.18 Provide listed combination smoke/fire dampers where the laundry room exhaust duct penetrates a fire-rated shaft. (CBC 717.5.3; CMC 605.1; CMC 605.2)

E.19 Provide listed fire dampers where the laundry room exhaust duct penetrates fire-rated walls and barriers. (CBC 717.5.1; CBC 717.5.2; CMC 605.2)

E.20 Provide listed combination smoke/fire dampers where the laundry exhaust ducts penetrate fire-rated walls and barriers that are part of a horizontal exit. (CBC 717.5.1.1; CBC 717.5.2.1; CMC 605.1; CMC 605.2)

E.21 Remove the fire or combination smoke/fire damper from the clothes dryer moisture exhaust. (CMC 504.3.1.1)

F. CORRIDOR VENTILATION

F.1 Show all fire-rated walls and ceilings where the ducts pass through. (CMC 112.3(1)(J))

F.2 Indicate if rated corridors are tunnel type or full height. (CMC 112.3(1)(J))

F.3 Provide corridor ventilation at the rate of not less than 0.06 cfm/square foot. (CMC Table 402.1)

F.4 Provide listed combination smoke/fire dampers at all duct penetrations through fire-rated shafts. (CBC 717.5.3)

F.5 Provide listed fire dampers at all duct penetrations through fire-rated ceilings. (CBC 717.6.1)

F.6 Provide listed combination smoke/fire dampers to isolate ducts serving rated corridors. (CBC 717.5.1; 717.5.2; 717.5.4.1)

F.7 Fire dampers shall be dynamic type. (CMC 605.2)

F.8 Do not pressurize the corridor. Corridors shall have supply air inlets and exhaust air outlets. (CMC 602.1)

F.9 Provide make-up air in the corridor. (CMC 602.1)

a. Provide an air inlet and outlet in each section of corridor isolated by doors (CMC 602.1)

F.10 Rooms adjacent to the corridor shall not draw air from the corridor or transfer air to the corridor. (CMC 602.1)

G. ENCLOSED PARKING GARAGE VENTILATION (NOT INTENDED FOR AUTO REPAIR)

G.1 Provide a note on the plans stating that the garage ventilation system shall operate continuously. (CMC 403.9)

G.2 Provide make-up air to replenish the air exhausted. (CMC 505.3)

G.3 Provide approved architectural plans showing the number of parking spaces. (CMC 403.9.1.1)

G.4 Provide a floor plan showing location of all exhaust and make-up air ducts, fans, and air inlets and outlets. (CMC 112.3(1)(C))

G.5 For alternative exhaust designs as described in Section 403.9.1, the exhaust air inlets shall be distributed so that no portion of the garage is more than 50 feet from an exhaust air inlet or provide calculations and analysis based on principles of engineering and mechanics showing that the proposed air inlet distribution provides adequate ventilation. (CMC 403.9.1.2)

G.6 Provide an elevation detail showing the location of the exhaust air inlets or provide a note on the plans stating that the exhaust air inlets shall be located as stated in Section 403.9.1.2. The exhaust air inlets shall be located so that the highest elevation of the exhaust air inlet is no greater than 12 inches below the ceiling level (CMC 403.9.1.2)

G.7 Show the termination of the garage exhaust. Exhaust outlets shall terminate not less than 10 feet from property line or center line of a public alley or street, 3 feet from exterior wall or roof, 10 feet from openings into the building, 10 feet above adjoining grade. (CMC 506.9(2))

G.8 Separate the garage ventilation from all other ventilation systems. (CMC 505.1.1)

G.9 Ducts shall be made out of metal or poured in place concrete, dry wall is not acceptable. (CMC 506.1)

G.10 For fan rooms used as a plenum, the fan room walls shall be made of poured concrete and the fan room door shall be lined with sheet metal. (CMC 602.1)

G.11 Specify the fire rating of the exhaust shaft. If the shaft is less than 2 hr. rated, provide combination smoke/fire dampers where the garage exhaust ducts penetrate the fire-rated shaft. (CBC 717.5.3)

G.12 In lieu of combined smoke/fire dampers, provide a dedicated 2 hr. shaft. (CBC 717.5.3 Exception 1.4)

G.13 Provide calculations showing that the exhaust fan is capable of uniformly exhausting 0.75 cfm per square foot of gross area of the garage. (CMC Table 403.7)

G.14 Provide calculations for the exhaust rate based on the minimum exhaust rate based on the number of operating vehicles based on the following formula:

a. Exhaust Rate = (No. of Parking Spaces) x 0.025x14,000 cfm
b. The minimum exhaust rate calculated with the above formula shall not be less than 14,000 cfm. (CMC 403.9.1)

G.15 Provide approved structural plans showing that the roof is designed to withstand all dead loads and required live loads. (CMC.303.9)

G.16 Review the attached document titled *"Standard Corrections List - Garage Ventilation CFD modeling*". Provide the information required and complete all applicable forms. (CMC 403.9.1.2)

H. REFRIGERATION MACHINERY ROOMS

H.1 Provide a refrigeration machinery room for the refrigeration system. (CMC 1107.1)

H.2 Provide an unobstructed and readily accessible opening not less than 3 feet wide by 6 feet- 8 inches in height for equipment maintenance. (CMC 1106.3)

H.3 Door(s) shall swing in the direction of exit. (CBC 1015.4; CMC 1107.3)

H.4 Provide two separate exits for machinery rooms exceeding 1000 square feet. (CBC 1015.5; CMC 1107.3)

H.5 Provide a dedicated mechanical exhaust system and provide calculations showing that it can achieve the minimum required ventilation for heat removal and emergency purge. (CMC 1108.2)

H.6 A switch of the break-glass type, providing off-only control of refrigeration compressors, pumps, and valves, shall be provided adjacent to and outside of each exit door. (CMC 1108.5)

H.7 Switches control fans providing emergency purge ventilation shall be provided with manual reset, and shall be located adjacent to and outside of each exit door. (CMC 1108.5)

a. Provide either separate fans for emergency purge or use two speed fans. (CMC 1108.2(2))

H.8 A clearly-identified switch, either of the break-glass type or with an approved tamper-resistant cover, providing off-only control of refrigeration equipment, shall be located immediately outside of and adjacent to the principle exit. (CMC 1109.4)

H.9 Show make-up air inlets and exhaust outlets on the plans. (CMC 112.3(1)(B); CMC 1108.1)

H.10 Make-up air intake shall be provided directly from outside of the building, shall be properly distributed, and shall be equipped with backdraft dampers. (CMC 1108.9)

H.11 Exhaust shall be discharged at least 20 feet from property lines and openings into the building. (CMC 1108.7)

H.12 Only equipment essential to the operation of refrigeration system shall be allowed within the machinery room. (CMC 1109.1)

H.13 Show on plans make, model, HP, cfm, and static pressure rating of all fans. (CMC 112.3(1)(D))

H.14 Provide product literature for all fans used showing their cfm & static pressure rating. (CMC 112.3(1)(D))

H.15 State the type of refrigerant. (CMC 1102.2)

H.16 Show the location of refrigerant-vapor detectors. (CMC 1107.4)

H.17 The refrigerant-vapor detectors shall be interconnected with the refrigeration machine room exhaust fans to provide emergency purge ventilation when activated. (CMC 1108.5)

I. FIRE PUMP AND GENERATOR ROOMS

I.1 Show the engine exhaust pipe from the point of connection at the engine to the point of termination. Show all wall and roof penetrations and identify which walls and roofs are fire-rated. (CMC 112.3(1))

I.2 Provide a minimum of 9 inches clearance from combustible construction. The clearance shall be measured from the outside surface of the pipe or duct and not from the insulation around the pipe. (CMC 802.7.3.4; Table 802.7.3.4(1); NFPA-211 8.22.1.3; NFPA-211 8.2.2.2.6)

I.3 Enclose the engine exhaust pipe in a fire-rated shaft. (CMC 802.15; NFPA-211 8.2.2.2.1)

I.4 No portion of the engine exhaust pipe shall extend into or pass through ducts or plenums (CMC 802.3.5)

I.5 Show room ventilation supply and exhaust. (CMC 504.1; CMC 112.3)

I.6 In absence of product literature, calculate the room ventilation according to CMC 1108.2.

I.7 The room ventilation shall be added to the combustion air. (CMC 701.9.1; CMC 701.9.3)

I.8 Show point of termination outside of the building of the room ventilation. (CMC 504.5)

I.9 In absence of product literature, size combustion air according to CMC 701.9.

I.10 Combustion air shall be drawn from outdoors. (CMC 701.9)

I.11 Dampers are not allowed in combustion-air ducts. (CMC 701.12)

J. FURNACES

J.1 Show that the flame associated to the furnace installed in the garage is located a minimum of 18 inches below the floor–ceiling assembly or 18 inches above the floor. (CMC 911.8; NFPA-88A 6.2.2)

J.2 The furnace shall not be installed in repair garages; It shall be installed in a detached room or building. (CMC 911.8.1)

J.3 Remove the furnace from the bedroom or show compliance with Section 904.1. (CMC 904.1)

J.4 Remove the furnace from the bathroom or show compliance with Section 904.1. (CMC 904.1)

J.5 Show the clearances around the furnace. (CMC 904.2)

J.6 Provide product literature showing the required clearances around the furnace. (CMC 904.2)

J.7 Under floor furnace supported by the ground shall be installed on a concrete slab not less than 3 inches above adjoining space. (CMC 904.3.1.1)

J.8 Under floor furnace supported from above shall have a clearance of at least 6 inches above adjoining ground level. (CMC 904.3.1.2)

J.9 Show compliance with Section 904.3.1.3 when excavation is necessary for the installation of the furnace below the floor. (CMC 904.3.1.3)

J.10 Where the excavation exceeds 12 inches provide a seepage pan. (CMC 912.9)

J.11 Show 24 inches passage way to the furnace. (CMC 904.10.2)

J.12 State the height of the passage way to the furnace. (CMC 904.10.1)

J.13 Passage ways with height less than 6 feet shall not exceed 20 feet in length. (CMC 904.10.1)

J.14 Show the location and size of permanent access to the furnace. (CMC 304.1; CMC 304.2; CMC 904.10)

J.15 Provide a working platform or grade surface not less than 30 inches by 30 inches on the service side of the furnace. (CMC 304.1; CMC 904.10.3)

J.16 Show location and size of all combustion air openings or ducts. (CMC 701.1)

J.17 Provide calculations for the combustion air. (CMC 701.1)

J.18 Combustion air duct shall be of galvanized steel. (CMC 701.11(1))

J.19 Dampers are not allowed in combustion air ducts. (CMC 701.12)

J.20 Provide a fire-rated enclosure around the vent. (CMC 701.12)

J.21 Provide an elevation of the furnace. Show the draft hood, vent size and type (e.g. double wall type B vent, positive-pressure vent, etc.), clearances and vent termination. (CMC 802.12; CMC 802.4; CMC 802.8; CMC 802.6; CMC 802.6.2)

J.22 The vent shall be type B. (CMC 802.4; CMC Table 802.4)

J.23 The vent shall be listed positive-pressure type. (CMC 802.3.3)

J.24 The vent shall have at least the same area the draft hood, but shall not be greater than 7 times the area of the draft hood outlet area. (CMC 802.6.3.1(3))

J.25 The vent termination shall be at least 5 feet above the vent collar. (CMC 802.7.2; CMC 802.6.2.1)

J.26 Vents shall extend above the roof and shall terminate in a vent cap. (CMC 802.7.2(3))

J.27 Vent termination point shall be at least 3 feet above any forced air inlet into the building located within 10 feet; and shall be 4 feet away from the property line. (CMC 802.6.2.5; CMC 802.7.2(2))

a. Provide product literature showing that the mechanical draft system is listed. (CMC 802.3.3)
b. Provide calculations and supporting documentation for the mechanical draft system.

J.28 The mechanical venting system shall terminate at least 4 feet below or horizontally from, and 1 foot above any opening into the building. (CMC 802.8.2)

J.29 The vent shall extend vertically, except one 60º offset is allowed. (CMC 802.6.1)

J.30 The total horizontal run of a vent plus the length of horizontal vent connector shall not exceed 75% of the vertical height of the vent. (CMC 802.6.1; CMC 802.10.9.2)

J.31 Provide manufacture brochure showing the venting criteria for the condensing furnaces. (CMC 802.6.3.2)

J.32 Vents shall not extend into or pass through ducts or plenums. (CMC 802.3.5)

J.33 Connectors entering a common venting system shall be offset. (CMC 802.10.3; CMC 802.10.3.1)

J.34 The area of a common vent connector shall not be less than the area of the largest vent connectors plus 50% of the areas of the additional vent connectors. (CMC 802.10.2.3)

K. TYPE-I KITCHEN HOODS

K.1 Provide kitchen lay out plans showing location of hoods, ducts, shafts, and make-up air.

K.2 Provide roof plans showing the location of the kitchen exhaust blower, property line and any openings into the building. (CMC 510.8.1)

K.3 Provide elevations showing finished floor, cooking equipment, grease exhaust hood, distance between cooking equipment and grease filters, overhang, finished ceiling, flushing, fire-rated shaft, clearance between duct and shaft, cleanouts, slope of horizontal ducts, roof, blower, diverter, distance of outlet termination above roof. In compensating hoods, show also make-up air duct and factory built-in fire damper. (CMC 112.3(1)(K); 112.3(2); 507.2; 508.1; 508.2; 508.5; 508.5.4; 509.2; 510.1.4; 510.2; 510.3; 510.7.1; 510.7.2; 510.7.3; 510.8.2)

K.4 Please note that general specifications in lieu of the actual sectional elevation views are not acceptable. (CMC 112.3)

K.5 Exhaust outlets serving grease duct systems shall terminate above the roof surface, 10 feet from property line, 10 feet from air intake openings and 10 feet above adjoining grade. Base of fan shall be 40 inches above roof surface. (CMC 510.8.1)

K.6 Provide an elevation to scale showing that the termination of the grease exhaust duct complies with Section 510.8.2. (CMC 510.8.2)

K.7 Show sizes, gauges, and materials of all ducts and hoods. (CMC 508.1.1; CMC 510.5.1)

K.8 Each exhaust outlet within a hood shall serve not more than a 12-foot section of unlisted hood. (CMC 508.9)

K.9 Specify on plan make, model, size, free area and number of filters used. (CMC 509.1; CMC 509.2.3)

K.10 Provide product literature for the filters showing the size, free area and friction loss, and listing. (CMC 112.2(5); CMC 509.1)

K.11 Duct system shall have a slope not less than 1/4 inch per lineal foot toward the hood or toward an approved grease reservoir. When horizontal ducts exceed 75 feet in length, the slope shall not be less than 1 inch per lineal foot. (CMC 510.1.3)

K.12 Duct enclosures from the point of ceiling, wall or floor penetration shall be at least 1 hr. fire-rated, except it shall be 2 hr. fire-rated in buildings four stories or more. (CMC 510.7; CMC 510.7.1; CMC 510.7.1.2)

K.13 The duct enclosure shall be sealed around the duct at the point of penetration. (CMC 510.7)

K.14 A clearance of at least 6 inches and not more than 18 inches shall be maintained between duct and enclosure. (CMC 507.1.3)

K.15 Exposed grease duct/hood systems serving a Type-I hood shall have a clearance from unprotected combustible construction of at least 18 inches. Clearance may be reduced to not less than 3 inches when the combustible construction is protected with material required for one-hour fire-resistive construction. (CMC 507.2)

K.16 Provide product literature for the grease exhaust blower and the make-up air fan, showing cfm, static pressures, and, if required, UL listing. (CMC 511.0)

K.17 List the type of cooking equipment on plans. (CMC 508.4.1)

K.18 Provide product literature for the cooking equipment showing that it is listed by AGA, UL, or other recognized agency. (CMC 515.1)

K.19 Provide calculations for sizing exhaust fans and make-up air units. Calculations shall show that the fan is capable of providing the minimum required volume of air. (CMC 508.4)

K.20 Air velocity within the duct system shall be not less than 500 feet per minute and shall not exceed 2,500 ft/min. (CMC 511.2)

K.21 Provide make-up air. (CMC 511.3)

K.22 Provide product literature for the compensating hood. The equipment shall be listed.

K.23 Compensating hoods shall draw not less than 20% of the required airflow from the kitchen. (CMC 511.4)

K.24 Provide product literature for the ventless/recirculating hood. (CMC 112.2)

K.25 Provide product literature showing that the ventless hood is listed in accordance with EPA 202 for reduced emissions, and operates with a total airflow of 500 cfm. (CMC 508.1 Exception 1)

K.26 Provide product literature for the recirculating hood showing it is listed to UL 710B. (CMC 508.1 Exception 2; CMC 516.2.2)

K.27 Fire protection shall be provided in recirculating hoods. (CMC 516.2.3)

K.28 The fire-extinguishing system shall be interconnected to the fuel or current supply so that the fuel or current is automatically shut off to all equipment under the hood when the system is actuated. (CMC 513.4)

K.29 The exhaust and make-up air systems shall be connected by electrical interlock switch. (CMC 511.3)

K.30 Provide clearance from the Health Department.

K.31 Provide access openings for cleaning, maintenance, and inspection. (CMC 510.3)

K.32 Type-I hoods for use over solid-fuel cooking equipment shall be provided with separate exhaust systems. (CMC 517.3.1)

K.33 Wall termination of solid-fuel exhaust is prohibited. (CMC 514.4.2)

K.34 Provide product literature showing that the solid-fuel cooking equipment is required to have a natural draft. (CMC 517.1.1)

K.35 Provide a spark arrester for the solid-fuel cooking equipment. (CMC 517.5.1)

K.36 Provide make-up air for the solid-fuel cooking equipment. (CMC 517.16.1)

K.37 Provide calculations showing that the solid-fuel cooking appliance is not installed in a confined space as defined in Section 205.0. (CMC 205.0; CMC 517.2.1)

K.38 Indicate on plans what provisions have been made for fire protection in the hood and in the duct. (CMC 513.1; CMC 513.1.1; CMC 513.2)

TYPE-II KITCHEN HOODS

K.39 Provide kitchen lay out plans showing location of hoods, ducts, shafts, and make-up air.

K.40 Provide roof plans showing the location of the kitchen exhaust blower, property line and any openings into the building. (CMC 510.8.1)

K.41 Provide make-up air. (CMC 511.3)

K.42 Show sizes, gauges, and materials of all ducts and hoods. (CMC 510.1.7)

K.43 Specify on plan make, model, HP, cfm and static pressure rating of fans used.

K.44 List type of cooking equipment on plans.

K.45 Provide elevations showing the finished floor, equipment under the hood, hood, fire-rated shaft (if required), roof, blower, and distance of the outlet termination above roof. (CMC 507.2; CMC 314.3(1); CMC 510.7)

K.46 The exhaust termination shall be at least 10 feet away from air inlets. (CMC 510.8.1, CMC 510.8.2)

K.47 Each exhaust outlet within a hood shall serve not more than a 12-foot section of hood. (CMC 508.9)

K.48 Provide clearance from the Health Department.

K.49 Provide product literature for the exhaust blower and the make-up air fan, showing cfm, static pressures, and, if required, UL listing. (CMC 511.0)

K.50 Provide product literature for the cooking equipment showing that it is listed by AGA, UL, or approved by the recognized agency. (CMC 515.1)

K.51 Provide calculations for sizing exhaust fans and make-up air units. Calculations shall show that the fan is capable of providing the minimum required volume of air determined by formulas. (CMC 508.4)