City of Huntington Beach

Department of Community Development

MECHANICAL PLAN CHECK CORRECTION LIST

Based on 2012 Uniform Mechanical Code,

2013 California Mechanical Code

2000 Main Street, Huntington Beach, CA 92648
Office: (714) 536 - 5241 Fax: (714) 374 - 1647

ADDRESS_____ **JOB DESCRIPTION**_____

PLANCHECK #_____ **PERMIT #**_____

DATE _____ **CONSTRUCTION TYPE** _____

CONTACT NAME _____ **OWNER** _____

CONTACT NO. _____ **PLANCHECKER** _____**Frank Biangone 714-536-5296**_____

I. GENERAL

1. Provide a written response to corrections circled on this sheet and/or notes on plans made by plan checker. All plan corrections shall be clouded or otherwise noted to expedite re-submittal.
2. Note corrections and/or notes on submitted drawings – return red marked set with two, new sets of revised drawings.
3. All plans and calculations are to be wet stamped and signed by a licensed engineer, architect or by the design installer. CMC sec. 113.2
4. Note fire rated construction on plans to verify proper provisions for listed rated penetration protection. .
5. Provide mechanical equipment schedule identifying the equipment, manufacturer, capacities and model numbers. Equipment shall also be listed and labeled by an approved testing agency. UMC sec.302.1
6. Provide information on energy requirements with proper Title 24 mechanical forms**.** State of California requires the MECH-1-C sheets (all parts 1, 2, 3, 4 and 5) and Mechanical Mandatory Measures Block to be on the submitted plans. Remainder of Compliance forms may be submitted in a separate package. CEC sec.125(a) 1 thru 14
7. California Energy Form MECH1C-ALT-HVAC must be used for this scope of work. The MECH-1C-ALT-HVAC form must be filled out completely per written instructions on the form and along with CA Mechanical Mandatory Measures be placed on the submitted plan per the state of CA.
8. All plans submitted to the Huntington Beach Building Dept. for plan check must be prepared on minimum ledger size paper. (11 x17)

II. HEATING, REFRIGERATION AND VENTILATION

1. Show location of hvac equipment on rooftop detail. Identify equipment on plans.
2. All rooftop equipment must be screened from view per Huntington Beach Zoning Code 230.76 :

230.76 Screening of Mechanical Equipment

A. General Requirement . Except as provided in subsection (B) below, all exterior mechanical equipment, except solar collectors and operating mechanical equipment in an I District located more than 100 feet from another zoning district boundary, shall be screened from view on all sides. Equipment to be screened includes, but is not limited to, heating, air conditioning, refrigeration equipment, plumbing lines, ductwork, and transformers.

Screening of the top of equipment may be required by the Director, if necessary to protect views from an R or OS district. Rooftop mechanical equipment shall be setback 15 feet from the exterior edges of the building.

B. Utility Meters and Backflow Prevention Devices . Utility meters shall be screened from view from public rights-of-way. Electrical transformers in a required front or street side yard shall be enclosed in subsurface vaults. Backflow prevention devices shall not be located in the front yard setback and shall be screened from view.

3. Central heating furnaces and low-pressure boilers may be installed in a closet in a bathroom or bedroom provided the closet has a listed, gasketed door assembly, a listed self closing device and a threshold with a bottom door seal. All combustion air must be taken from outdoors. CMC sec. 904.1(1, 2)
4. Furnace/a-c/heat pump/ not shown on plans. Show location of equipment.
5. Buildings of more than 15 feet in height shall have an inside means of access to the roof mounted equipment. CMC sec.904.10.2, 904.10.3

6. A CF-1R form that summarizes the minimum energy performance specifications needed for compliance, including the results of the heating and cooling load calculations must be included on the submitted plans.
7. All rooms and occupied spaces listed in Table 1 (Chap.4) of the California Mechanical Code shall be designed to have outdoor air for its occupants in accordance with Chapter 4 of the Ca. Mech. Code.
8. All dwelling units shall meet the requirements of ANSI/ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Low Rise Residential Buildings. Window operation is not a permissible method of providing the Whole Building Ventilation required in section 4 of that standard. 2010 CEC sec. 150 (o). Include all worksheets denoting duct size, length and fan selection.
9. ANSI/ASHRAE 62.2 requires that each kitchen and bathroom have a local ventilation exhaust system installed that exhausts indoor air to outside the building. ANSI/ASHRAE 62.2 sec. 5
10. All enclosed spaces in a building that are normally used by humans shall be ventilated in accordance with the requirements of 2010 CA Energy Code Sec. 121 and the CBC. The outdoor air-ventilation rate and air-distribution assumptions made in the design of the ventilating system shall be clearly identified on the plans required by 10-103 of Title 24 Part 1. 2010 CEC
11. Decorative shrouds shall not be installed atop gas vents and chimneys except where such shrouds are listed for use with the specific vent/chimney system and installed in accordance with manufacturers' installation instructions. CMC sec. 802.6.2.4
12. Condensate disposal required to be collected and drained to an approved location. CMC secs. 309.1,
13. Provide combustion air to fuel burning appliances. CMC ch. 7
14. Ductwork not shown or incomplete. Specify duct type, gage, material and insulation requirements. CMC ch. 6
15. Factory made ductwork is to be installed to UL 181 standards.
16. Air moving systems supplying air in excess of 2000 cfm required to be equipped with an automatic shut off interlocked with a smoke detector located in the supply ducting of the air moving system. CMC sec. 609
17. Return air may not be obtained from an area where it will pick-up objectionable odors, fumes or flammable vapors;a kitchen, closet, bathroom, toilet room or where it is less than 10 feet above the surface of any abutting public way or driveway. CMC sec.311.3
18. Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts. 2010 CBC sec. 1018.5
19. Corridors shall not be used to convey air to or from rooms if the corridor is required to be of fire-resistive construction per the Building Code. CMC sec. 602.1
20. Unvented room heaters may not be installed in a bathroom or bedroom or be used as the primary source of heat. CMC sec. 924.1, 924.1.1
21. All materials exposed in a return air plenum or ceiling shall be non-combustible or have flame spread index no greater than 25 and a smoke developed index no greater than 50. CMC sec. 602.2
22. All dampers require access that shall not require the use of tools, keys or special knowledge. All access points shall be permanently identified on the exterior by a label with letters not less than ½" in height reading: SMOKE DAMPER, FIRE DAMPER OR COMBINATION F/S DAMPER. 2010 CMC sec. 606.5
23. Compressor capacity requires refrigeration machinery room. Provide details of machinery room. UMC secs.1107 thru 1109.4
24. Walk-in/reach-in cooler location required to be shown on plans. CMC sec. 1101
25. Steam and water piping that is a part of hydronic heating or cooling systems shall comply with Chapter 12 of the 2010 California Mech. Code.
26. Penetrations of the elevator lobby enclosure by ducts and air transfer openings shall be protected as required for corridors in accordance with section 716.5.4.1 of the 2010 CA Building Code. 2010 CBC sec. 713.14.1.
27. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, balance the system in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency. 2010 CA Green Building Code Standards sec. 5.410.4.3.1.
28. Combustion and ventilation air for infrared heaters shall be provided in accordance with the following: 1) Where unvented infrared heaters are used, natural or mechanical means shall be provided to supply and exhaust not less than 4 cubic feet per minute per 1,000 btuh input of installed heaters, 2) Exhaust openings for removing flue products shall be above the level of the heaters. 2014 CMC sec. 919.4 (1), (2).

III. PRODUCT CONVEYING SYSTEMS

1. Specify classification of product conveying system. CMC sec.502.1
2. Specify size of ductwork and what gage thickness the ductwork system is to be constructed of. CMC tbls. 5-5, 5-6
3. Fittings in class 2, 3 and 4 duct systems are to be two gages thicker than required for straight runs. CMC sec.506.3
4. Spacing for support of ducts shall not exceed 12 feet for 8 inch ducts nor exceed 20 feet intervals for ducts larger than 8 inch.CMC sec. 506.5
5. Dust collection bins must have outdoor location approval by Fire Dept. and indoor collection bins must be approved for their use. CMC 505.1

IV. ENVIROMENTAL EXHAUST

1. Identify the size and type of duct material for environmental air system. CMC sec. 504.1

2. All environmental air systems must be shown on plans. This includes clothes dryers, rest room exhaust, non-commercial kitchen exhaust, etc.
3. When a closet is designed for the installation of a clothes dryer, a minimum opening of 100 sq. in. for make-up air shall be provided in the door or by other approved means. CMC sec. 504.3.2
4. All environmental air outlets shall terminate 3 feet from openings into the building and 3 feet from property line. CMC sec. 504.5

V. COMMERCIAL KITCHEN HOOD SYSTEMS

1. Type of listed cooking equipment shall be identified and described on plans. CMC sec.515.1
2. Construction of the hood and duct systems (Type I and Type II) must comply with the entire CMC secs. 508 thru 508.9 or be listed and approved for their use.
3. The wall construction behind where the Type I hood is to be hung must be a minimum of limited combustible construction to achieve the 3" clearance to limited construction required by the grease exhaust hood manufacturer. 2010 CMC secs. 507.2 thru 507.2.3.3. Limited construction is described as a steel stud wall with ½" drywall on both sides as per NFPA 96 tbl. A.3.3.38
4. Overlapping duct connections of either the telescoping or the bell type shall be used for welded field joints on grease duct construction, NO BUTT WELDED FIELD JOINTS ALLOWED. CMC sec. 510.5.2.2
5. A Type I hood shall be installed with clearance from combustible construction of at least 18 inches. This may be reduced to 3 inches provided the combustible material is protected with materials as specified for one-hour fire resistive construction on the hood side. CMC sec. 507.2.1
6. Type I hoods less than 12 inches from the ceiling or wall shall be flashed solidly with same materials required for hood construction.
7. Type I hoods or portions thereof penetrating a ceiling or wall shall be enclosed in the duct enclosure. CMC secs. 510.7.1 thru 510.7.2.3
8. FIELD applied grease duct enclosures shall continuously cover the duct on all sides from the point at which the duct enclosure penetrates a ceiling, wall or floor to the outlet terminal and shall be listed in accordance with ASTM E 2336 which requires TWO layers of duct wrap to achieve a one hour rating. 2010 CMC sec. 507.2.6
9. A Type II hood shall be installed at or above all commercial dishwashers in a food processing establishment. 2010 CPC sec. 508.1
10. **Clean out opening in a horizontal grease duct systems must be provided with access and platform when not accessible from a stepladder. CMC sec. 510.3.4.1.2**
11. Provide calculations of hood and duct systems with formula from CMC secs. 508.4.1.1 thru sec. 508.4.2
12. **Minimum velocity of air moving in grease duct shall be 500 FPM the maximum shall not exceed 2500 FPM. CMC sec. 511.2.1**
13. **When grease hood extinguishing system discharges, make up air supplied internally to the hood (short circuit, compensating) shall be required to shut down. CMC sec. 511.3**
14. Replacement air quantity shall be adequate to prevent negative pressures in the commercial cooking area(s) from exceeding 0.02 inch water column. When its fire extinguishing equipment discharges, make up air supplied INTERNALLY to a hood shall shut down. CMC sec. 511.3
15. Roof detail required showing location of rooftop exhausting equipment termination according to CMC secs. 510.8.2.1.
16. A hinged upblast fan must be mounted atop at least 18" of grease duct above the roof surface with the fan terminating no less than 40" above the roof surface. CMC sec. 510.8.2.1(E)
17. Grease duct discharge must be a minimum of 10 feet of clearance from outlet to adjacent buildings, property lines and air intakes. Where space limitations prevent a 10 foot horizontal separation from air intakes duct may be elevated to 3 feet above air intakes within 10 feet. CMC sec. 510.8.2.1(A)
18. Install a cleanout door onto the grease duct as denoted on plans. CMC sec. 510.3.1
19. Clearance from grease duct to non or limited combustion enclosure (shaft) shall not be less than 6 inches. CMC sec. 510.7.2.3
20. Exhaust outlets within the hood may only serve a 12-foot section of an unlisted hood**.** CMC sec.508.9
21. Grease exhaust system subject to performance test before final approval. Add note to plan**.** CMC sec. 511.2.3
22. An approved fire extinguishing system shall be installed for protection of commercial food heat processing equipment**.** CMC sec. 513.1.1

VI. STEAM AND WATER BOILERS

1. Boilers rated at/or over 400,000 btuh must be installed in a fire rated room. CBC sec. 302.5
2. Expansion tanks required to be installed in conjunction with boiler. CMC sec. 1005.1
3. Boiler room/enclosure requires combustion air following guidelines of CMC sec. 701.1.1
4. Potable water supply connections to steam and/or water boilers shall be provided with a listed backflow protection assembly or device. CPC sec. 603.4.10
5. Provide an elevation plan of boiler vent system, shafts (if required), combustion air and blow-down tank (if required).
6. Trap primed floor drain required to be installed in a boiler room that serves boiler(s) providing hydronic heating and/or hot water supply**.** CMC sec.1017.0

VII. GAS PIPING

1. Provide detail on gas piping; include size of piping and pipe materials. CMC 1309.1.1
2. Provide lengths of all gas piping branches and the main line from meter to structure. Include all valve locations**. CMC sec. 1317**
3. Provide total btuh demand for each outlet on the gas piping system. Include both new and existing outlet btuh demand for proper sizing approval of gas system. CMC secs. 1319.1, 1319.1.1, 1319.1.2
4. Description of each appliance of the gas piping system is required. CMC 1318.2
5. **CSST (corrugated stainless steel tubing) gas pipe systems shall be bonded to the electrical service's grounding electrode system at the point where the CSST gas piping enters the building. The bond jumper shall be a minimum 6 awg. Copper. CMC sec. 1312.13(B)**
6. Gas piping 5psi and above located inside a structure is prohibited unless one of the following conditions are met: 1. Pipe is located in a ventilated chase, 2. Pipe is located in buildings or separate area of building used exclusively for industrial heating or processing, research, warehousing or boiler or mechanical equipment room. 3. Pipe system is welded. CPC sec. 1211.5

IIX. ADDITIONAL CORRECTONS

1. See additional attached notes and respond accordingly to corrections noted.