ALEXANDER CITY
ALABAMA

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On March 26, 2022, the City of Alexander City will place into effect the latest edition of the International Code Counsel updated code changes. The new code standards which will be followed are the 2021 Residential, Building, Plumbing, Energy Conservation, Existing Building, Property Maintenance, Pool, Mechanical, Gas, and Fire Codes. We have also adopted the 2020 NEC (National Electrical Code). Any residential or commercial plans submitted on or after April 15, 2022 will fall under the 2021 Building Code.

The following are some of the significant changes associated with the adoption of the 2021 Mechanical Code, Plumbing Code, and Fuel/Gas Code. We hope to make this an easy transition for everyone by giving you information on some of these significant changes.

International Mechanical Code Changes

- **Condensate Discharge**- Significant coverage is added to the code regarding the point of disposal of condensate. Such coverage addresses what has been common practice (acceptable and unacceptable) in most jurisdictions.
- **Intake Opening and Exhaust Outlet Locations**- A new type of factory-built combination exhaust and intake air fittings is introduced that does not require separation between the two openings.
- **Recirculation of Mechanical Exhaust Prohibited**- Note (g) of Table 403.3.1.1 was rewritten to lessen the negative impact of recirculated exhaust air from spaces such as bath and toilet rooms, shower rooms, locker rooms.
- **Demand Controlled Ventilation**- The change clarifies that demand control ventilation schemes cannot eliminate all ventilation in space while that space is expected to be occupied.
- **Outdoor Air for Dwelling Units**- Because of the superior performance of balanced ventilation systems (see new definition), the code will grant a reduction in the ventilation rate, recognizing the higher efficiency of balanced ventilation systems.
- **Outdoor Air Ventilation for Dwelling Units**- There is a new requirement for labeling of controls for whole-house (dwelling) ventilation systems.
- **Mechanical Ventilation of Enclosed Parking Garages**- The code text was rewritten to clarify the intent with regard to “intermittent” operation.
- **Manicure and Pedicure Station Exhaust**- The code now requires the continuous operation of nail salon exhaust systems during business hours.
- **Sealing of Clothes Dryer Exhaust Ducts**- The code now speaks to the sealing of clothes dryer exhaust ducts.
- **Clothes Dryer Exhaust Termination**- The code now addresses the required size of dryer exhaust duct terminals.
- **Termination Location for Dryer Exhaust**- New text was added to address the possibility of dryer exhaust air being reintroduced into a building interior.

- **Dryer Exhaust Ducts in Framing Cavities**- The code now addresses the installation of clothes dryer exhaust ducts in wall and ceiling cavities.
- **Type I Hood Exhaust Termination**- The intent was clarified regarding clearance to openings to prevent other requirements from being overlooked.
- **Factory-Built Grease Duct Slope**- The new exception exempts factory-built grease ducts from the duct slope prescriptions of the code, relying instead on the slope requirements stated in the product listing and manufacturer's installation instructions.
- **Pollution Control Units**- The code added coverage and a definition for pollution control units that are installed in the grease exhaust system to extract smoke, grease particles, and odors from the exhaust flow.
- **Smoker Ovens with Integral Exhaust**- The new exception exempts smoker ovens from the requirement for a Type I Hood where such ovens have an integral exhaust system and are listed for installation without a Type I hood.
- **Clearances for Type I Hood**- A new exception was added to recognize Type I hoods that are listed for clearances to combustibles of less than 18 inches.
- **Energy Recovery Ventilation Systems**- The prohibition of some types of energy recovery ventilation (EVR) equipment for use with Type II kitchen exhaust hoods has been lifted.
- **Pipe and Duct Insulation within Plenums**- A new section specifically addresses duct and pipe insulation in plenums.
- **Pipe and Duct Insulation within Plenums**- The revision addresses the practice of using pipe insulation materials to protect piping that does not meet the required fire performance requirements.
- **Phenolic Ducts**- The code added coverage for a newer type of non-metallic phenolic duct.
- **Testing of Underground Ducts**- The code now addresses the testing of underground ducts.
- **Snap-lock and Button-lock Duct Joints**- The code is less restrictive for snap and button-lock duct joints that are located within the terminal envelope.
- **Ceiling Radiation Dampers**- The code mandates dynamic-type ceiling radiation dampers where subject to continuous airflow from HVAC fans.
- **Duct Penetrations of Fire Barriers**- The revision describes how flexible air connectors can be installed in a duct system that is otherwise required to be constructed entirely of sheet steel.
- **Sub-ducts Penetrating Shaft Enclosures**- The revision makes Exception 1 consistent with Exception 2 because the requirements for a sub-duct option for fire dampers should be the same for the sub-duct option for smoke dampers.
- **Ventilation Air Distribution**- This revision relocates text that requires verification of the required ventilation airflow rates by means of balancing the system and adds a requirement for airflow adjustment means for air distribution and exhaust systems, in addition to the previous requirements for ventilation air systems.
- **Blocked Vent Switch for Oil-Fired Appliances**- A requirement was added for an additional safety device for oil-fired appliances to be consistent with what is required for some gas-fired appliances.
- **Wood-Burning Residential Hydronic Heater**- The revision makes the code consistent with EPA rules for heater emissions.
- **Unvented Alcohol Fuel-Burning Decorative Appliances**- Coverage was added for a new type of decorative fuel-burning appliance about which the code was previously silent.
- **High-Volume Large-Diameter Fans**- The code added coverage for HVLD fans.
- **Ammonia Refrigeration Systems**- These revisions remove all regulations for ammonia refrigeration systems from the IMC and instead simply defer all regulation to the suite of IIAR standards already referenced in the IMC.
- **Ammonia System Ventilation Rate**- An important clarification was added regarding the ventilation rate required for ammonia systems, thereby resolving an interpretation issue.
- **Machinery Room Means of Egress**- Revised egress requirements for machinery rooms from the IBC were added to the IMC to prevent such requirements from being overlooked.
- **Refrigerant Piping Location**- This code section was rewritten to clearly state the intent regarding the prohibited locations for refrigerant piping.
- **Solar Thermal Systems**- This chapter was substantially rewritten for consistency with current technology.

International Plumbing Code Changes

- **Third-party Certification for Cast-iron Pipe**- This new section invokes additional inspection and certification requirements for third-party certification agencies that inspect the products at the manufacturing location.
- **Parallel Water Distribution Systems**- Where hot water piping for a manifold system I in a bundle with cold water piping, the hot water piping is required to be insulated but not necessarily individually insulated.
- **Thermal Expansion Tank Support**- A thermal expansion tank cannot be supported by the piping connected to the tank.
- **Gaming Area Plumbing Fixtures**- Assembly areas used for gaming (gambling) now have specific ratios for plumbing fixture requirements.
- **Row Selection Based on Description of Use Column**- The Occupancy (Group) column has been deleted from Table 403.1 for greater flexibility and accuracy.
- **Plumbing Fixtures for Outdoor Public Swimming Pools**- Outdoor public swimming pools now have specific requirements for plumbing fixtures.
- **Fixture Quantity Calculations for Multiple User Facilities**- The minimum fixture quantities for multiple user toilet facilities designed to serve all genders must be calculated 100 percent based on total occupant load.
- **Single User Toilet Facility Identification**- Single-user toilet facilities having required plumbing fixtures must now be labeled for use by either sex.
- **Distribution of Lavatories**- Multiple toilet facilities in a building for the same sex must have the required lavatories distributed proportionally.
- **Facilities for Small Business Occupancies**- Business occupancies having 25 or fewer persons are allowed to have the required single-user toilet rooms not labeled for use by a specific sex.
- **Multiple-user Non-separated Toilet**- Designs for multiple-user facilities serving both sexes are possible.
- **Facilities and Drinking Fountains on Accessible Routes**- Because accessibility is covered by the requirements of Section 404 and those requirements include specifics concerning accessible routes, there is no need to repeat the accessible route requirements in these sections.
- **Location of Toilet Facilities in Occupancies other than Malls**- The location of toilet facilities in Group-S occupancies can exceed the location and maximum distance limitations provided that the arrangement is approved.
- **Service Sink Location**- Where a service sink is not located within a tenant space in a covered mall, the travel distance to a service sink is limited.
- **Pumped Waste Plumbing Fixtures**- Plumbing fixtures having a pumped waste arrangement must comply with a standard that covers the integral waste pumping system.
- **Wall Hung Fixture Carrier Standard for Water Closets**- A new standard for water closet carriers is added.
- **Bathtubs are not Required to have Overflow Outlets**- A bathtub does not require an overflow outlet.
- **Residential Dishwasher Standard**- Residential dishwashers must now comply with Standard NSF 184.
- **Residential Dishwasher Waste Connection**- The requirement for residential dishwasher waste connections was moved from Section 802.1.6 to new Section 409.4. The language was modified for clarity.
- **Quantities of Standing versus Wheelchair Drinking Fountains**- Fifty percent of the required number of drinking fountains must be for standing persons and the other fifty percent for persons who use wheelchairs.
- **Emergency Shower Temperature Control**- Emergency shower or eyewash station water requires temperature control by an ASSE 1071 mixing valve.
- **Water Heaters for Emergency Shower and Eye Wash Stations**- A new type of water heater is available for emergency showers and eyewash stations that do not require a temperature-actuated mixing valve.
- **Individual Shower Valves**- Lower flow showerheads need to be compatible with the shower control (mixing valve).
- **Methods for Limiting Water Temperature Discharge to Bathtubs**- New types of water heaters and a new design for tub faucets are additional methods that can be used to control water temperature for bathtubs.

- **Flow Limiting Device for Hot Water Discharge**- Were other requirements outside of the code require limiting the discharge water temperature at a faucet or fixture fitting, installation of an ASSE 1062 device is an approved method of control.
- **Methods for Temperature Limitation at Head Shampoo Sinks and Footbaths**- Two additional methods can be used to limit the water temperature discharge from a head shampoo sink.
- **Tempered Water for Public Handwashing Lavatories**- A valve conforming to CSA B125.3 is no longer acceptable as a water temperature limiting device for public hand-washing lavatories.
- **Standard for Shower Waste Fittings**- Shower drains, including linear shower drains, are required to comply with the referenced standard.
- **Health Care Requirements**- Section 422 concerning Health Care Fixtures and Equipment is deleted.
- **Solar Water Heating System Standard**- Solar thermal water heating systems must conform to the International Mechanical Code and ICC 900/SRCC 300.
- **Insert Fittings on T&P Valve Piping**- Where insert fittings are used in T&P valve discharge piping, the piping must be of larger size.
- **Water Heater Drain Pan Materials**- Aluminum and plastic are approved drain pan materials. Plastic drain pans must not be used under gas-fired water heaters.
- **Standard for Water Well Construction**- Where local regulations for the construction of water wells do not exist or are lacking in details, the code requires well construction to comply with Standard NGWA-01.
- **Potable Water Pumps to Comply with NSF 61**- Pumps used to supply drinking water must conform to NSF 61.
- **Pumps used to Supply Drinking Water Must Conform to NSF 61**- Solder and flux used in making joints in pipe and tubing for drinking water systems must conform to NSF 61.
- **Push-fit Joints for Copper, CPVC, PEX, and PE-RT Tubing**- The push-fit method of joining was not explicitly described in the "types of joints" section for various piping materials. This change makes the acceptability of this type of mechanical joint clearer.
- **Individual Tenant Water Shut-off Valve**- Multiple tenant buildings must have a main water shutoff valve for each tenant space.
- **Water Heaters Providing Tempered Water to Fixtures**- New designs of water heaters are available where the temperature control of the water heater can provide reliable and accurate control of the temperature of the heated water.
- **Thermal Expansion Control Devices**- Thermal expansion control devices, other than thermal expansion tanks, can be used for control of hot water system pressure.
- **Backflow Protection for Water Handling Equipment**- Some of the requirements in Section 608.3 were extracted, reworded, and put into a new section to provide clarity about backflow protection requirements.
- **NSF 61-compliant Tanks for Drinking Water**- Drinking water must be protected from contamination from contact with water tanks, coatings on the inside of water tanks, and liners on the inside of water tanks. Standard NSF 61 is the testing protocol for determining nonacceptable levels of contamination by components in contact with drinking water.
- **Discharge from Backflow Preventer Relief Opening**- Where backflow preventers can relieve indoors, the relief discharge must be directed to an adequately sized waste receptor.
- **Independent Backflow Protection for Drinking Dispensers**- Only carbonated beverage dispensers require a backflow preventer that is designed for exposure to carbon dioxide gas. Also, because of the potential for cross-contamination between noncarbonated drink dispensers and or coffee machines, each dispenser or machine supplied with potable water must have a backflow preventer (or air gap) at the connection to the potable water supply.
- **Backflow Device for Low Hazard Boiler Applications**- The code adds a recognized standard, ASSE 1081, for a combination pressure regulator/backflow preventer product for boilers.
- **Humidifier Backflow Preventer**- The potable water connection to a humidifier that does not have internal backflow protection must have an ASSE 1012 backflow preventer or an air gap.

- **Medical Facility Terminology**- Outdated terminology for different types of medical facilities has been replaced with terminology that is aligned with industry standards and how the International Building Code refers to such facilities.
- **Two Water Service Pipes**- Buildings classified as Group I-2, Condition 2 facilities require two water service pipes. The previous requirements for hospitals to have two water service pipes was vague, resulting in enforcement difficulties.
- **Tracer Wire for Buried Nonmetallic Water Service Piping**- The addition of a tracer wire on buried hospital water service piping allows for easier locating to avoid piping damage that would disrupt water service.
- **Point of Use Reverse Osmosis Systems**- Point-of-use reverse osmosis drinking water treatment units must now comply entirely with NSF 58 or CSA B483.1.
- **Connection to Sewer Systems**- Gray water systems are not required to be connected to a public sewer or a private sewage disposal system provided that they discharge to systems in accordance with Chapter 13 or 14.
- **Drainage Piping above Food Areas**- The installation of drainage piping above "food areas" is no longer prohibited.
- **Polypropylene Piping for Building Sewer**- Standards for polypropylene (PP) plastic pipe is added to Table 702.3 for code-approved building sewer piping.
- **ABS Building Sewer Pipe Standard**- A standard is added to the building sewer pipe table for a composite wall ABS pipe.
- **Reuse of Buried Drain and Sewer Piping**- The use of existing building sewer and existing building drains for new building plumbing system is clarified.
- **Grease-laden Waste Piping Slope**- Piping conveying grease-laden waste must have a slope of not less than ¼ inch per foot (2 percent).
- **Reduction of Pipe Size**- Allowable reductions of the pipe size is clarified and expanded.
- **PVC And ABS Push-fit DWV Fittings**- Push-fit fittings are a new type of DWV fitting for ABS and PVC piping that, when used, will reduce installation time.
- **PVC to ABS Solvent Cement Joint**- One joint between ABS plastic building drain piping and PVC plastic building sewer drain piping can be solvent cemented with special cement.
- **Removable Fixture Traps Serving as Cleanouts**- Removable traps and removable fixtures with integral traps are acceptable as equivalent to cleanouts.
- **Ejector Sump Cover Elevation**- Gas-tight removable covers for sumps have ejectors and sewage pumps cannot be located more than 2 inches below grade or floor level.
- **Waste Ejector Solids Size Reduced**- The maximum solids diameter capacity for waste pumps and waste ejectors has been reduced from 1-inch diameter to ½-inch diameter.
- **Health Care Plumbing**- Section 713 covering sanitary drainage systems in health care facilities has been deleted in its entirety.
- **Pipe Bursting Replacement of Building Drains**- The section on replacement of building sewers by pipe-bursting methods has been expanded to include replacement of underground building drains.
- **Methods for Restoring Building Sewer Piping**- The code recognizes two methods for restoring building sewer and building drain piping.
- **Connection of Humidifier Drains**- Air humidification equipment that has a wastewater discharge must have the discharge piping connect in an indirect method to the sanitary drainage system.
- **Laundry Tub Connection to Clothes Washer Standpipe**- An alternative method for connecting a laundry tub drain, without a fixture trap, to a clothes washer standpipe is added to the code.
- **Protected Outdoor Vent Termination Method**- New requirements for protected outdoor roof vent terminals accommodate solar panel and architectural feature installations.
- **Food Waste Disposers on Combination Waste and Vent Systems**- The prohibition of a food waste disposer discharging to a combination waste and vent system is removed.
- **Prohibited Installation for Air Admittance Valves**- An air admittance valve cannot be use to resolve the problem of an open vent terminal that is too close to a building air intake.

- **Direct Connection to Hydromechanical Grease Interceptor**- A one, two, or three-compartment pots and pans sink without a trap can be directly connected to a hydro-mechanical grease interceptor provided that the grease interceptor is in close proximity and connects to a drainage branch that has an emergency floor drain connected immediately downstream of the interceptor.
- **Fixture Drains Serving as a Trap Priming Method**- Waste from lavatories and hand sinks can be directed to floor drains, trench drains or floor sinks where such floor fixtures require a trap primer.
- **Discharge of Disposers to Grease Interceptors Prohibited**- Food waste disposer discharge to any type of grease interceptor is prohibited.
- **Additives to Grease Interceptors**- Additives to grease interceptors are limited to microbes dispensed by systems that comply with ASME A112.14.6 an allowed by the interceptor manufacturer.
- **Types of Piping for Storm Sewers**- Additional types of piping materials and standards were added to the table for approved building storm sewer pipe.
- **Roof Drains to be Tested and Rated for Flow**- Flow testing and rating of roof drains is required to be in accordance with the referenced standard.
- **Rainfall Rate Conversion Method**- Although the conversion from inches-per-hour of rainfall to gallons per minute (GPM) is not complicated, including the conversion information in the code is helpful.
- **Roof Drainage Scuppers**- Scuppers for primary and secondary roof drainage must be located and sized to prevent the water depth on the roof from exceeding the maximum allowable water depth for the structural capacity of the roof structure.
- **Nonflammable Medical Gas System**- NFPA 99 covers the installation, testing, and labels for nonflammable medical gases.
- **Non-potable Rainwater Standard Alternative**- Standard CSA B805/ICC 805 is added to the code to serve as an alternative method for providing a non-potable water source.
- **Gray Water Storage Tanks**- The consensus standards covering storage tanks for on-site non-potable water reuse systems including gray water are removed from the code.
- **Non-potable Water for Fire Protection Systems**- The IPC now references the International Fire Code (IFC) regulations covering the use of non-potable water-based fire protection systems.
- **Rainwater Quality**- Site conditions can affect the quality of collected, untreated (raw) rainwater. Standard ASTM E2727 must be used to determine the impact of those site conditions.

International Fuel / Gas Code Changes

- **Definition of Point of Delivery**- New definitions clarify terms that are used in the definition of “point of delivery” and a change to the definition of “service shutoff” coordinates with all of the relative definitions.
- **Gas-fired Clothes Dryer in Bathrooms**- A new option was added to allow gas-fired clothes dryer to be installed in a toilet room or bathroom.
- **Concealed Condensate Piping**- The code was revised to address the concern over the terminations of concealed condensate drain lines where it will not be apparent which drain is the normal condensate drain and which drain is the secondary (backup) drain.
- **Bonding of CSST and Arc-resistant CSST**- Section 310.2 previously applied to all CSST products but is now restricted to only the traditional yellow jacketed CSST product. A new Section 310.3 was added to address the arc-resistant CSST products.
- **Grounding Electrodes for CSST Bonding**- The code was clarified with regard to the purpose of any “additional grounding electrodes”.
- **Press-Connect Joints**- The code now recognizes press-connect joints as suitable for high pressure (over 5 psig) applications indoors.
- **Schedule 10 Steel Gas Pipe**- The code now allows Schedule 10 steel pipe to be used for fuel gas service.
- **Fittings in Concealed Locations**- This change addresses an omission of threaded fittings that were intended to be allowed in concealed locations, yet not specifically mentioned in the text.

- **Corrosion Protection for Steel Gas Pipe**- This section was rewritten for clarity and to include three distinct prescriptive methods for protection from corrosion of steel pipe.
- **Piping Underground beneath Buildings**- A listed encasement system instead of conduit encasement is recognized where plastic piping is installed underground beneath buildings.
- **Threaded Joint Sealing**- The text was revised to require the use of thread joint sealants (aka, joint compound, pipe dope, pipe tape).
- **Access to Shutoff Valves for Movable Appliances**- For shutoff valves installed behind movable appliances, the required access is provided by moving the appliance.
- **Shutoff Valve Support for Tubing Systems**- New text addresses shutoff valve support for tubing systems.
- **MP Regulator and Appliance Pressure Test Port**- The code provided a new alternative to the required pressure tap fitting downstream of a medium pressure regulator.
- **Standards for Plastic Pipe Venting Material**- The standards to which plastic pipe venting materials must be listed are addressed.
- **Chimney Lining**- The exception for existing chimneys, previously intended to avoid a hardship, is considered to be outdated and has been deleted.
- **Direct-vent Termination Clearances**- Section 503.8 Item 3 relative to direct-vent appliances was reformatted into table form and a new category was added for direct-vent appliances having higher BTU/hr inputs that are more consistent with nonresidential appliances.
- **Venting System Terminal Clearances**- Through-the-wall vent terminal clearance distances have been placed in a new table with the corresponding figure for ease of use.
- **Vent Connector Junctions**- New text addresses the juncture of appliance vent connectors and the required method.
- **Return Air from Mechanical Room**- New text clarifies the intent to prohibit pulling return air from the mechanical room.
- **Commercial Cooking Appliances**- An unnecessary exception for commercial cooking appliances within dwelling units has been deleted.