CSI - Ohio

The Common Sense Initiative

Business Impact Analysis

Agency Name: Ohio Board of Building Standards

Regulation/Package Title: Ohio Plumbing Code Update

Rule Number(s): Rescind all existing rules in 4101:3; Adopt new rules 4101:3-1-01, 4101:3-2-01, 4101:3-3-01, 4101:3-4-01, 4101:3-5-01, 4101:3-6-01, 4101:3-7-01, 4101:3-8-01, 4101:3-9-01, 4101:3-10-01, 4101:3-11-01, 4101:3-12-01, 4101:3-13-01, 4101:3-14-01, 4101:3-15-01

Date: January 3, 2017

Rule Type:

X New

Amended

X 5-Year Review

X Rescinded

The Common Sense Initiative was established by Executive Order 2011-01K and placed within the Office of the Lieutenant Governor. Under the CSI Initiative, agencies should balance the critical objectives of all regulations with the costs of compliance by the regulated parties. Agencies should promote transparency, consistency, predictability, and flexibility in regulatory activities. Agencies should prioritize compliance over punishment, and to that end, should utilize plain language in the development of regulations.

Regulatory Intent

1. **Please briefly describe the draft regulation in plain language.**
   Please include the key provisions of the regulation as well as any proposed amendments.

The Ohio Board of Building Standards (Board) proposes to rescind all existing rules in 4101:3 and adopt new Ohio Administrative Code (OAC) Rules as follows:

4101:3-1-01 This proposed rule regulates the administration of the plumbing code by certified building departments and local health departments.

4101:3-2-01 This proposed rule sets forth the definitions of terms used in rules 4101:3-1-01 through 4101:3-15-01

4101:3-3-01 This proposed rule contains the general requirements for the installation of plumbing systems for toilet rooms.

4101:3-4-01 This proposed rule regulates number and installation of plumbing fixtures.

4101:3-5-01 This proposed rule regulates design and installation of water heaters.

4101:3-6-01 This proposed rule sets forth the requirements for water supply systems within a building.

4101:3-7-01 This proposed rule regulates the design and installation of sanitary drainage piping systems within a building.

4101:3-8-01 This proposed rule regulates drainage installations requiring an indirect connection to the sanitary drainage.

4101:3-9-01 This proposed rule contains requirements for vents and venting of plumbing systems.

4101:3-10-01 This proposed rule regulates installation of plumbing system traps, interceptors and separators.

4101:3-11-01 This proposed rule sets forth the requirements for storm drainage.

4101:3-12-01 This proposed rule regulates the design and installation of special piping and storage systems including medical gas.

4101:3-13-01 This proposed rule references the nonpotable water systems requirements regulated by the Ohio Department of Health.

4101:3-14-01 This proposed rule references the subsurface landscape irrigation system requirements regulated by the Ohio Department of Health.

4101:3-15-01 This proposed rule lists technical standards referenced in rules 4101:3-1 through 4101:3-14

Significant changes to these rules are listed in attached Exhibit A.

2. **Please list the Ohio statute authorizing the Agency to adopt this regulation.**

   Revised Code § 3781.10: http://codes.ohio.gov/orc/3781.10
   Revised Code § 3781.11: http://codes.ohio.gov/orc/3781.11

3. **Does the regulation implement a federal requirement? Is the proposed regulation being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal law or to participate in a federal program?**
   If yes, please briefly explain the source and substance of the federal requirement.

   No.

4. **If the regulation includes provisions not specifically required by the federal government, please explain the rationale for exceeding the federal requirement.**

   Not applicable.

5. **What is the public purpose for this regulation (i.e., why does the Agency feel that there needs to be any regulation in this area at all)?**

   Revised Code § 3781.10 directs the Board to "formulate and adopt rules governing the erection, construction, repair, alteration and maintenance of all buildings specified in section 3781.06 of the Revised Code…" Additionally, Revised Code 3781.06 provides:

   > *Any building that may be used* as a place of resort, assembly, education, entertainment, lodging, dwelling, trade, manufacture, repair, storage, traffic, or occupancy *by the public*, *any residential building, and all other buildings or parts and appurtenances of those buildings erected within this state*, *shall be so constructed, erected, equipped, and maintained that they shall be safe and sanitary for their intended use and occupancy.*

   This statute defines safe and sanitary as follows:

   > *"Safe," with respect to a building, means it is free from danger or hazard to the life, safety, health, or welfare of persons occupying or frequenting it, or of the public and from danger of settlement, movement, disintegration, or collapse, whether such danger arises from the methods or materials of its construction or from equipment installed therein, for the purpose of lighting, heating, the transmission or utilization of electric current, or from its location or otherwise.*
   >
   > *"Sanitary," with respect to a building, means it is free from danger or hazard to the health of persons occupying or frequenting it or to that of the public, if such danger arises from the method or materials of its construction or from any equipment installed therein, for the purpose of lighting, heating, ventilating, or plumbing.*

   The Ohio Building Code sets forth the construction standards for nonresidential buildings in the State of Ohio to ensure that they are safe and sanitary. Additionally, Revised Code § 3781.01 provides that local governments may not adopt regulations that that conflict with the Board's rules to facilitate the uniform application of the standards.

   Revised Code 3781.11 lists conditions that rules of the Board must address, including:

   > (1) For nonresidential buildings, provide uniform minimum standards and requirements, and for residential buildings, provide standards and requirements that are uniform

throughout the state, for construction and construction materials, including construction of industrialized units, to make residential and nonresidential buildings safe and sanitary as defined in section 3781.06 of the Revised Code;

(2) Formulate such standards and requirements, so far as may be practicable, in terms of performance objectives, so as to make adequate performance for the use intended the test of acceptability;

(3) Permit, to the fullest extent feasible, the use of materials and technical methods, devices, and improvements, including the use of industrialized units which tend to reduce the cost of construction and erection without affecting minimum requirements for the health, safety, and security of the occupants or users of buildings or industrialized units and without preferential treatment of types or classes of materials or products or methods of construction;

(4) Encourage, so far as may be practicable, the standardization of construction practices, methods, equipment, material, and techniques, including methods employed to produce industrialized units;

6. How will the Agency measure the success of this regulation in terms of outputs and/or outcomes?

The enforcement of these rules will be implemented by certified township, city, and county building departments and health districts. Rule 4101:1-1-01 lays out the administrative procedures certified building departments must follow to implement the substantive requirements of these rules to determine compliance. These provisions require a builder or owner to make application to a building department to obtain an approval to build (permit). As part of this application the owner must submit sufficient information and/or construction documents for the building official/plans examiner to determine whether the proposed work complies with the code. After the builder or owner obtains the approval (permit), construction may commence and the building department inspectors will inspect the construction to ensure that the work conforms with the original approval. Rule 4101:1-1-01 § 105.2 provides that in the absence of fraud or a serious safety or sanitation hazard, any non-residential structure built in accordance with approved plans shall be conclusively presumed to comply with these rules. The Board requires that certified nonresidential building departments submit an annual yearly operational report which lists the following information: current employees and their certifications, total number of permits issued during the year for each type of occupancy, total number of inspections made, the total value

of construction, and the total number of appeals of the code requested by a builder or owner during the year.

Development of the Regulation

7. Please list the stakeholders included by the Agency in the development or initial review of the draft regulation.
If applicable, please include the date and medium by which the stakeholders were initially contacted.

On July 13, 2016, the Board invited an ad hoc group of plumbing inspectors, contractors and designers who have historically been active in the development of the plumbing code to review the initial draft of the proposed rules. They included Tom Wanner, CPI, Rocco Fana, PHCC/ACCA, Mike Rudey, OAPI, Jim Richardson, OAPI, David Dexter, Fosdick & Hilmer, Matther Sciaretti, Heapy, Lisa Humble, Hamilton County Health District, Kevin Jester, Clermont County Health District and Jason Shank, Plumbing & Pipefitters 55, CPI.

The Board maintains a stakeholder distribution including building department personnel, contractors, designers and professional associations. The stakeholder list is available upon request. On October 7, 2016, the Board sent an email to all agency stakeholders informing them of a scheduled stakeholder meeting on October 28, 2016 to hear comments and respond to questions on these rules. The notice summarized the proposed amendments and also informed stakeholders that if they could not attend the stakeholder meeting, they could submit questions or comments via email or regular mail by November 2, 2016. On October 28, 2016, the Board conducted a stakeholder meeting on the proposed rules at 1:00 PM and the following individuals attended: Rocco Fanna, PHCC Ohio, Herm Bohinc, PHCC Ohio, Thomas Wanner, CPI, Jason Shank, CPI, Shawn Gray, CPI, Daniel Nicholson, Lake County General Health, Ronne Branson, OAPI, Charles McNaught, OAPI, Paul Buehrer, City of Oregon, Brian Fraley, Heapy Engineering, Jack Soma, DIC, and Matt Sciaretti, Heapy Engineering.

8. What input was provided by the stakeholders, and how did that input affect the draft regulation being proposed by the Agency?

The plumbing ad hoc group comments are attached as Exhibit B (with the exception of the comments submitted by Mr. Sciaretti due to its size), and the correspondence the Board received in response to October 7, 2015 email and a summary of the October 28, 2016 stakeholder meeting are attached as Exhibit C. The plumbing ad hoc group comments were reviewed by the Board's Code Committee at its September 7, 2016 meeting, and the stakeholder comments received were reviewed by the Committee at its November 3, 2016 and December 8, 2016 meetings.

Section 608.16.2 was modified to respond to Mr. Rudey's and Ms. Humble's comments regarding conflict with the Board's boiler rules.

The proposed rules were modified as follows to respond to Mr. Soma's comments: Table 712.4.2 changed "2" to "3/4 – 2" for macerating and grinder system capacities; Section 802.3 added "be installed in" for outlet of waste receptors; Section 1002.1 added "floor drains, floor sinks and hub drains" to addresses fixtures to trap distances of more than 24"; and Section 1201 was modified to add reference to "medical oxygen systems" in addition to non-flammable medical gas systems.

As the Board recently made changes to Section 312 for testing of plumbing systems with significant input from plumbing industry which has been incorporated into the proposed rules, the Board did not generally take up comments related to this Section. However, Section 312.2.2 was modified to respond to Mr. Dexter's comments seeking clarification for dual pressure relief valve.

The definition of building official was modified in response to Mr. Jester's comments to incorporate the definition of building official from the building code which references the references the authority of a health commissioner of a health district to enforce the plumbing code. Additionally, the definition of waste receptor to respond to Mr. Jester's comments to add "service sinks, and laundry trays."

In addition to several editing and typographical changes, the proposed rules were modified as follows to respond to Mr. Sciaretti's comments: Section 405.1 modified to remove reference to lead closet flanges; Section 410.5 modified the reference to restrooms to toilet facilities; Section 502.4 modified to reference "applicable" seismic forces; and Section 708.1.2 was deleted.

Section 901.3 was modified to respond to Mr. Shank's and Mr. Wanner's comments to add further clarification to requirements for chemical waste vent systems by cross-referencing existing requirements for air admittance valves.

Additionally, the proposed rules retains Section 312 language developed with stakeholders in 2016 and effective October 10, 2016. On January 1, 2016, Amendments Group 90 adopted by the Board in 2015 went into effect which limited the testing of plastic pipe to water. However, following the effective date of these changes, the plumbing industry submitted comments, petitions, and correspondence to the Board explaining that the rule change had a costly impact. As a result, the Board's Code Committee began to work with the plumbing industry and plumbing inspectors to further modify Section 312 to address these concerns but also maintain required rough/final plumbing system tests. The resulting language

retained in the proposed rules allows for an exception for testing with air if permitted by the manufacturer. This gives the owner options if air testing is preferred method for testing, but would need to use pipe where the manufacturer permits air testing.

9. **What scientific data was used to develop the rule or the measurable outcomes of the rule? How does this data support the regulation being proposed?**

   The proposed rules are based on the 2015 International Plumbing Code (IPC) promulgated and amended by the International Code Council (ICC). The model codes developed by ICC are updated every three years through a process that incorporates petitioning, public hearings and voting by ICC members. The ICC Committee that oversaw the development of the 2015 IPC included code officials, engineers, contractors and other professional organizations.

   When a petition to amend the model code is submitted, the proponent of the change must submit the proposed language of the amendment, the reason for the amendment including scientific data when applicable, and the cost impact of the amendment. All submitted petitions are then published prior to initial code development hearings on the petitions. Interested persons may review the proposed changes and attend the code development hearing and provide comments. A report then is published on the public hearings for review and then final action is taken on the proposed changes at final action hearings. All successful changes are incorporated into the next edition of the model code.

   Upon publication the Board's code committee reviews each substantive change included in the newest edition of the code and determines whether to recommend the change to the Board for adoption. The Board last fully updated the OPC on November 1, 2011.

10. **What alternative regulations (or specific provisions within the regulation) did the Agency consider, and why did it determine that these alternatives were not appropriate? If none, why didn't the Agency consider regulatory alternatives?**

    See Question 9.

11. **Did the Agency specifically consider a performance-based regulation? Please explain.** ***Performance-based regulations define the required outcome, but don't dictate the process the regulated stakeholders must use to achieve compliance.***

    Continuing law permits a registered design professional's alternative engineered design to be a compliance alternative method to the prescriptive requirements of the code. Section 106.5 of the Ohio Building Code permits a registered design professional to submit sufficient technical data to substantiate that performance of the proposed alternative engineered design meets the intent of the code. Additionally, section 107.4.3 provides that when construction documents have been prepared by an Ohio registered design professional

conforming to the requirements of the rules of the Board pertaining to design loads, stresses, strength, and stability and other requirements involving technical analysis, the documents need only be examined to the extent necessary to determine conformity with other requirements of the rules of the Board.

12. **What measures did the Agency take to ensure that this regulation does not duplicate an existing Ohio regulation?**

    Editorial changes are routinely made to the rules to provide consistency with the Ohio Revised Code and other Board and agencies' rules. Additionally, RC § 3781.10 gives the Board sole authority to adopt rules which regulate the erection, construction, repair, alteration, and maintenance of all buildings or classes of buildings specified RC § 3781.06 including residential and non-residential buildings. This authority includes the adoption of standards for plumbing systems.

13. **Please describe the Agency's plan for implementation of the regulation, including any measures to ensure that the regulation is applied consistently and predictably for the regulated community.**

    For these rules to be enforced by a local government, its building department must be certified by the Board or be enforced by local health district. The Board also certifies the personnel who work within certified building departments to ensure only qualified personnel are enforcing the Board's rules. Certified personnel must complete continuing education to maintain their certifications and continue to be authorized to enforce these rules. The Board has authority to suspend or revoke certifications for failure to properly enforce the rules. Also, the Board has a staff member dedicated to responding to complaints by persons affected by the Board rules. This program helps promote consistent and predictable application of the Board rules.

Adverse Impact to Business

14. **Provide a summary of the estimated cost of compliance with the rule. Specifically, please do the following:**
    a. **Identify the scope of the impacted business community;**
        - Building owners
        - Design Professionals
        - Contractors
        - Building Department Personnel
    b. **Identify the nature of the adverse impact (e.g., license fees, fines, employer time for compliance); and**
        - Obtaining updated rules as published as the Ohio Plumbing Code

- Becoming familiar with the changes through research and training
- Increased cost of construction due to changes that require different construction methods/materials/products or increased stringency of construction standards.
- Limitation on air testing for plastic pipe - Difficulty performing water tests under certain circumstances (e.g. during winter or when no water is available yet on site).

c. Quantify the expected adverse impact from the regulation.

The adverse impact can be quantified in terms of dollars, hours to comply, or other factors; and may be estimated for the entire regulated population or for a "representative business." Please include the source for your information/estimated impact.

Due to the variance in allowed building designs, it is difficult to ascertain, in dollars, a cost increase/decrease in the design cost of a building as a result of the proposed code update. However, as discussed in Question 9 above, when a code change proponent submits a petition to ICC to amend the model code an estimated cost impact of the proposal is included. Of the significant changes, the following sections included in the proposed rules were noted by the proponent as having a cost increase in construction:

Section 423.3 – Adds sections addressing footbaths, pedicure baths, and shampoo sinks
Section 607.2.1 – Adds new requirements for circulating hot water systems
Section 802.1.1 – Requires each well of a multi-compartment sink to discharge independently
Section 903.1 – Addresses occupied roof vent pipe terminations
Section 1003.9 – Clarifies intent of interceptor and separator venting section
Section 1105.2 – Requires the manufacturer's roof drain flow rate be used in sizing the conductors, leaders and storm drains
Section 1106.3 – Prescribes a storm leader sizing method and adds a table
Section 1106.6 – Prescribes a roof gutter sizing method and adds a table

Additionally, water testing takes approximately 3 times as much time to perform than air testing. Also, if water needs to be brought to the site, the cost of shipping is approximately $300 per truck load. However, these proposed rules are intended to address this cost impact to recognize additional testing methods for rough-in and final tests of plastic piping.

The new Ohio Plumbing Code publication will be available from publishers at an approximate cost of $100.

15. Why did the Agency determine that the regulatory intent justifies the adverse impact to the regulated business community?

While noted as cost increase, many of the changes listed have little or no affect depending on the design choices while other changes included in the rule package will decrease cost of construction, offer regulatory alternatives, and recognize new technologies and materials.

Until the current edition the Board updated the codes every three years. The Board has taken steps to lengthen the time between code updates to reduce the impact on the construction community. To date, however, 12 states have already adopted the 2015 IPC and another 13 have adopted the 2012 IPC. Projects are designed months and years in advance. Design professionals need predictability to be able to design the appropriate standards. This update will keep Ohio's code aligned with the majority of other states.

Finally, testing with air pressure on plastic if done improperly is hazardous. There is a risk of explosion if too much air pressure is applied. Water testing is safer and more accurate. This is consistent with IPC '09, '12 and '15 codes as well as many manufacturers of plastic pipe installation requirements. However, these proposed rules retains current Section 312 language effective October 10, 2016, to address the cost impact of water-only testing recognizing additional testing methods for rough-in and final tests of plastic piping if permitted by the manufacturer.

Regulatory Flexibility

16. Does the regulation provide any exemptions or alternative means of compliance for small businesses? Please explain.

The rules do not have special exemptions or alternative means of compliance specifically for small business. The Ohio Building Code (OBC) requires a building official to issue an adjudication order to an owner when the design or construction of a building does not comply with the OBC. The adjudication order must comply with Revised Code Chapter 119 and give the owner an opportunity to appeal. This mechanism is often utilized by an owner voluntarily to obtain a variance from the requirements. Variance requests are heard by either the Ohio Board of Building Appeals or a certified local board of building appeals.

Also, the OBC permits alternative engineered designs prepared by a registered design professional to not strictly comply with the prescriptive requirements of the rules. To obtain approvals based on alternative engineered designs, the design professional must submit sufficient technical information to demonstrate that the performance meets the intent of the rules.

17. How will the agency apply Ohio Revised Code section 119.14 (waiver of fines and penalties for paperwork violations and first-time offenders) into implementation of the regulation?

Revised Code § 3781.102 does not authorize the Board to set the fees and/or penalties assessed by local certified residential building departments in connection with the enforcement of these rules. Compliance with the rules is accomplished through construction conforming to the certificate of plan approval (permit). Therefore, there are no potential paperwork violations of these rules.

18. What resources are available to assist small businesses with compliance of the regulation?

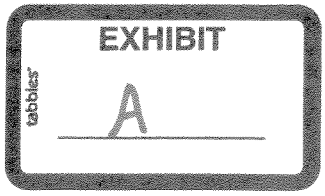
As these proposed rules update the Ohio Plumbing Code to a new model code edition, the Board offers training and resources to building department personnel to prepare them to enforce the new codes. These resources are paid for by assessment fees collected by certified building departments pursuant to RC 3781.102 on behalf of the Board to be used exclusively for (1) the operating costs of the Board, (2) providing services, including educational programs, for building departments certified by the Board, and (3) paying the expenses of the Residential Construction Advisory Committee.

The Board's technical staff spends approximately 25% of their time responding to questions on the building codes and educating design professionals, contractors, the public, and code officials of the intent of the Board's rules assisting all parties in compliance.

Summary of BBS Proposed Ohio Plumbing Code Rule Changes – October 2016

Significant Changes are highlighted in yellow

Ohio Administrative Code Rule Number	OPC Section	IPC change origin	Reason for proposed change
4101:3-2-01	Alternate on-site nonpotable water	2015	Added definition
	Backflow preventer	2015	Modified definition
	Collection pipe	2015	Added definition
	Demand recirculation water system	2015	Added definition
	Design flood elevation	2015	Modified definition
	Drinking fountain	2015	Added definition
	Grease interceptor	2012	Break out definition into two types: Hydro-mechanical and Gravity
	Grease interceptor	2015	Adds another type: Fats, oils and greases (FOG) disposal system
	Mechanical joint	2015	Modifies definition
	Meter	2015	Adds definition
	On-site nonpotable water reuse system	2015	Adds definition
	Plumbing system	2015	Modifies definition
	Rainwater	2015	Adds definition
	Reclaimed water	2015	Adds definition
	Sewer, Public sewer	2015	Modifies definition
	Storm water	2015	Adds definition
	Toilet facility	2015	Adds definition
	Water cooler	2015	Adds definition
	Water dispenser	2015	Adds definition
4101:3-3-01	304.4	2012	Clarifies how the annular space between pipes and structures is to be sealed for the purpose of rodent-proofing
	305.4	BBS initiated change	Removes the methods for freeze protection
	307.5	2015	Adds a new section for protection of footings
	Table 308.5	2012	Add PE-RT to the table
	Table 308.5 note b	2015	Clarifies meaning of midstory guide
	309.2	2012	Clarifies flood hazard design intent



	310.2	2012	Relocated compartment and partition requirements to OPC section 405
	312.2.2	BBS initiated change	Clarified that the intent of the requirement was to have dual pressure relief valves, not one device
	314.2.4.1	2015	Adds an in-line check valve requirement for ductless mini-split system condensate lines or traps
	314.2.5	2015	Adds a new section for condensate line cleanouts
	315	2012	Added a new section to address pipe penetrations
	316	2012	Adds a reference to chapter 1 for alternative engineered design
4101:3-4-01	403.3	2012	Adds an exception for public toilet facilities in open or enclosed parking garages and exempts toilet facilities where there are no parking attendants
	403.3	2015	Modifies the parking garage exception and adds an additional exception for public toilet facilities
	403.3.4	2012	Adds open malls to the section
	403.3.6	2012	Adds a new section for door locking
	404.2	2015	Creates a new section by splitting up 404.1
	404.3	2015	Relocated the requirement for drain pipe covering
	405.3	2012	Relocates compartment and partition requirements from OPC Chapter 3
	405.4	2012	Clarifies fixture floor connections

	406.1	2012	Deletes the standard for domestic clothes washers
	406.1	2015	Adds standards for air gaps integral to the washing machine
	406.2	2012	Clarifies drainage requirements for automatic clothes washers
	407.2	2012	Requires an overflow outlet for bathtubs
	409.1	2012	Removes standard for domestic dishwashing machines
	409.2	2015	Adds standards for air gaps integral to the dishwashing machine
	410.1	2015	Adds a standard for drinking water coolers
	410.2	2015	Adds a drinking fountain exception for small occupancies
	410.3	2015	Adds a requirement and exception for high and low drinking fountains
	410.4	2012 and modified by BBS	Adds a section for drinking fountain substitution
	413	2015	Changes "grinder" to "disposer" and requires listing and labeling in accordance with UL 430
	413.2	2015	Changes "grinder" to "disposer"
	413.3	2015	Changes "grinder" to "disposer"
	413.4	2015	Changes "grinder" to "disposer"
	415.1	2015	Updates standards
	416.1	2015	Updates standards
	416.2	2015	Updates standards
	417.1	2015	Updates standards
	417.4.1	2015	Extends watertight requirements to floor areas
	418.1	2015	Updates standards
	419.1	2015	Updates standards

	420.1	2015	Updates standards and recognizes dual flushing devices
	421.1	2015	Updates standards and requires listing and labeling
	423.3	2015	Adds a section addressing footbaths, pedicure baths, and shampoo sinks
	424.3	2015	Updates standards
	424.4	2015	Updates standards
	424.8	2015	Updates standards
4101:3-5-01	501.3	2015	Removes reference to ASSE 1005 and prescribes the size of the drain valve inlet
	504.4.1	2012	Clarifies that the temperature and pressure relief valve is also required on separate water storage tanks
	504.6	2015	Adds a minimum distance from the floor or flood level rim of the waste receptor
	504.7	2012	Clarifies that the section applies to storage tank-type water heaters, not tankless-type water heaters
	504.7.2	2015	Clarifies that pan drains are not required on water heater replacements
4101:3-6-01	601.5	2015	Adds a section addressing epoxy lining systems
	Table 604.3	2015	Modifies flow rate and pressure for lavatories, sinks, shower
	Table 604.5, note a	2015	Modified the developed length from 60 feet to 50 feet
	Tables 605.3 and 605.4	2015	Adds CPVC/AL/CPVC pipe
	Table 605.5	2015	Updates standards
	605.7	2015	Clarifies valve requirements

	Table 605.7	2015	Adds the valve standard table
	605.12	2015	Updates standards
	605.14.3	2015	Recognizes grooved and shouldered mechanical joints for copper tubing
	605.14.5	2015	Recognizes press-connect joints for copper tubing
	605.15.2	2015	Modifies primer requirements for CPVC pipe
	605.16	2015	Recognizes CPVC/AL/CPVC
	605.18.3	2015	Recognizes grooved and shouldered mechanical joints for steel pipe
	605.22.2	2015	Recognizes grooved and shouldered mechanical joints for PVC pipe
	605.23.3	2015	Recognizes grooved and shouldered mechanical joints for stainless steel pipe
	606.7	2012	Requires labeling of bundled water distribution pipe
	607.1.2	2012	Breaks out the temperature control requirements into a subsection
	607.2	2012	Limits the developed length form source to fixture to 50 feet.
	607.2.1	2015	Adds new requirements for circulating hot water systems
	607.3	2015	Updates the thermal expansion control requirements
	607.5	2012	Adds prescription requirements for piping insulation
	607.5	2015	Modifies piping insulation requirements
	Table 608.1	2012	Changed "spill-proof" to "spill- resistant"

	Table 608.1	2015	Reorganizes table and updates standards
	608.3.1	2012	Changed "spill-proof" to "spill- resistant"
	608.6	2015	Improves cross connection language
	608.8	2015	Modifies the requirements for identification of nonpotable water systems
	608.13.5	2012	Changed "spill-proof" to "spill- resistant"
	608.13.7	2015	Updated terminology
	608.13.8	2012	Changed "spill-proof" to "spill- resistant"
	608.13.10	2015	Adds a section for dual check backflow preventers
	608.15.4.1	2012	Changed "spill-proof" to "spill- resistant"
	608.16	2012	Updated terminology for backflow prevention assemblies
	608.16.2	BBS initiated change	Coordinates high-temperature check valve/backflow preventer with boiler code
	610.1	2015	Removes the requirement that repaired potable water systems be disinfected
4101:3-7-01	Table 702.1	2015	Removes brass pipe
	Table 702.2	2015	Removes Asbestos-cement pipe
	Table 702.3	2015	Removes Asbestos-cement pipe
	Table 702.4	2015	Removes Asbestos-cement pipe
	702.5	2015	Allows waste water to discharge at temperatures greater than 140F as along as piping material is rated for the max temperature. (Relocated from 803.1)
	704.3	2012	Removes "Except as prohibited by Section

			711.2" permitting more flexibility in the location of horizontal branch connections to horizontal stack offsets
	705.4.3	2015	Clarifies that cast iron mechanical joint fittings for hubless pipe shall consist of an elastomeric sealing sleeve and metallic shield
	705.11.2	2015	Provides an exception for PVC solvent cement primer
	706.2	2012	Allows certain tubular waste fittings used to convey vertical flow to have obstructions
	708	2015	Revises entire cleanout section for clarity and eliminates need for cleanout at base of each stack
	Table 709.1	2012	Allows bathroom groups in other than dwelling units
	Table 709.1	2015	Changes food waste "grinder" to "disposer"
	Table 709.1	BBS initiated change	Removes commercial automatic clothes washer dfu from table
	712.3.2	2015	Requires the sump cover to be installed at or above floor level
	712.3.3	2012	Clarifies sump and ejector discharge pipe and fitting materials
	712.3.5	2012	Limits discharge connection distance to stack
	712.4.1	2015	Updates standards
	715.1	2012	Changes reference point to finished floor elevation below manhole cover elevation
	715.1	2015	Provides an exception that addresses installation of

			backwater valves for existing building
	716	2015	Adds a new section for vacuum drainage systems
4101:3-8-01	802.1	2015	Adds a list of types of waste that is required to discharge indirectly
	802.1.1	2015	Requires each well of a multi-compartment sink to discharge independently
	802.1.6	2015	Removes "standpipe" and changes "grinder" to "disposer"
	802.1.7	2015	Removes "standpipe"
	802.1.8	2012	Prohibits directly connecting food sinks
	802.2	2012	Removes "standpipe" and changes trap threshold dimensions from 2 ft to 30 inches and 4 ft to 54 inches. Also adds a trap exception for clearwater waste
	802.2.2	2015	Removed "standpipe"
	802.3	2012	Adds plenums, crawl spaces, attics, above ceilings and below floor areas to prohibited locations for waste receptors
	802.3	2015	Clarifies when removable strainer or basket is required and removes bathrooms and toilet rooms from the list of prohibited locations
	802.3.2	2015	Changes term to "hub drain"
4101:3-9-01	Many sections	2012	Reorganizes the chapter sections
	901.2	2015	Omitted the word "pneumatic"
	901.3	2012	Allows AAV for chemical waste termination

	903.1	2015	Breaks the paragraph into two sentences and addresses occupied roof vent pipe terminations.
	903.1	BBS initiated change	Requires the 7 foot above the roof termination within 10 feet of the occupiable area.
	903.2	2015	Reference dimension is now to the thermal envelope of the building
	903.4	2012	Clarifies that vent terminal cannot be used for anything other than vent terminal
	903.5	2012	Changes vent terminal from 3 feet to 2 feet above intake terminals
	906.5.1	2012	Changes "similar" manner to "same" manner
	914.3	2012	Changes "maximum slope" to "not greater than"
	915	2012	Changed name of venting system to "Combination Waste and Vent"
	916.1	2015	Changed "grinder" to "disposer"
	918.3	2012	Reorganized for clarification
	918.5	2015	Changed "A valve" to "Such valves"
	918.8	2012	Provided an exception for ASSE 1049 AAVs
4101:3-10-01	1002.1	2012	Allows a main floor drain trap in lieu of individual floor drain traps in multilevel parking garages discharging to combined building sewer system
	1002.1	2015	Allows floor drains in multilevel parking

			garages and connected to storm to not be trapped
	1002.4.1	2015	Reorganizes the section to break- out the trap seal protection methods
	1002.6	2015	Prohibits building traps
	1003.1	2012	Clarifies that interceptors are permitted to be located downstream of the building drain
	1003.3.1	2012	Allows an above floor grease interceptor upstream of an existing interceptor
	1003.3.4	2012	Clarifies that the section applies to hydromechanical grease interceptors, not gravity grease interceptors
	1003.3.6	2015	Adds a section for gravity grease interceptors
	1003.3.7	2015	Requires that grease interceptors directly connect to sanitary
	1003.4	2015	Clarifies that oil separators are only required for repair garages that have floor or trench drains
	1003.4.2	2012	Allows oil separators to be listed and labeled or comply with prescriptive requirements
	1003.6	2015	Clarifies the requirements for clothes washer interceptors
	1003.9	2015	Clarifies intent of interceptor and separator venting section
4101:3-11-01	1101.2	2015	Removes requirement that storm water discharge to storm sewer or combined

			sewer system and instead says approved place of disposal
	1101.7	2015	Prescribes how to calculate the maximum possible depth of water on a roof
	Table 1102.4	2015	Removes asbestos-cement pipe and updates standards
	Table 1102.5	2015	Removes asbestos-cement pipe and updates standards
	1102.6	2012	Updates standards
	1103.1	2015	Eliminates the requirement that storm leaders and drains be trapped when connected to the building storm sewer
	1105	2012	Requires that roof drains comply with manufacturer's installation instructions
	1105.2	2015	Requires the manufacturer's roof drain flow rate to be used in sizing the conductors, leaders and storm drains
	1106.2	2015	Prescribes a storm drain sizing method and adds a table
	1106.3	2015	Prescribes a storm leader sizing method and adds a table
	1106.5	2012	Provides a specific reference to Section 1503.4 of the building
	1106.6	2015	Prescribes a roof gutter sizing method and add a table
	1107	2012	Adds a new section for siphonic roof drainage systems
	1108.1	2012	Clarifies that secondary roof drains are required only where roof drains are required

	1108.1	2015	Clarifies that a single device can be used for primary and secondary roof drains as long as outlets are independent
	1108.3	2015	Revises method of sizing secondary drains
4101:3-12-01	1202.1	2015	Changes standard to NFPA 99
4101:3-13-01	1301.1	2012	Adds a reference to the ODH rules for gray water recycling
	1301.1	2015	Changes title to non-potable water systems
4101:3-14-01	1401.1	2015	Adds a reference to the ODH rules for subsurface landscape irrigation systems connected to nonpotable water from onsite water reuse systems
4101:3-15-01	1501.3	BBS initiated change	Relocates referenced standards chapter and updates many referenced standards

Ohio Association of Plumbing Inspectors
P.O. Box 201
West Chester, OH 45071

President, Mike Rudey, Vice President, John Baumgartner,
Secretary, Bryson Wakeley, Treasurer, David Hudson

Date: August 17, 2016

TO: Ohio Board of Building Standards Code Committee

ATTN: Regina Hanshaw, Executive Secretary

FROM: Michael Rudey, OAPI President

The Ohio Association of Plumbing Inspectors Board would like to note and suggest a few minor changes to the proposed 2015/17 OPC code adoptions.

Please note:

- Section 608 page 34
- Section 901 page 1

608.16.2 Connections to boilers. The potable supply to the boiler shall be equipped with a backflow preventer with an intermediate atmospheric vent complying with ASSE 1012 or CSA B64.3. Where conditioning chemicals are introduced into the system, the potable water connection shall be protected by an air gap or a reduced pressure principle backflow preventer, complying with ASSE 1013, CSA B64.4 or AWWA C511. This is in conflict with the Boiler code- the boiler code requires a high temperature reduced pressure principle backflow an ASSE 1013 max temperature is 180 degrees, a boiler is 250 degrees

901.3 Chemical waste vent systems. The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the outdoors ~~or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste systems shall be constructed of materials approved in accordance with Section 702.5 and shall be tested for chemical resistance in accordance with ASTM F 1412.~~ Eliminate this venting method, allowing a AAV in a chemical waste system could be dangerous, as an AAV have a high rate of failure.

Please review these sections and recommendations. OAPI Board members will have additional comments to present to the Code Committee as the adoption process moves forward.

Sincerely,

Michael Rudey, OAPI President

EXHIBIT
tabbies
B

Hanshaw, Regina

From: Soma, Jack
Sent: Monday, August 01, 2016 4:23 PM
To: Hanshaw, Regina
Subject: OPC 2015 review
Attachments: 2015.docx

Regina

Here's my review of OPC 2015
A lot of minor changes
These are the only items that I have issues with

Jack Soma
Plumbing Section Supervisor
Ohio Department of Commerce
Bureau of Building Code Compliance
6606 Tussing Road, Reynoldsburg, OH 43068-9009
614-644-3153
Jack.Soma@com.state.oh.us

312.1 Required tests. The *owner or owner's representative* shall *cause* the applicable tests *and inspections* prescribed in Sections 312.2 through *312.11 to be performed* to determine *that the work will withstand the prescribed test without leakage and to demonstrate the integrity of the device or assembly. In accordance with OBC Section 108.8, reasonable advanced* notice *shall be given* to the *building* official when the plumbing work is ready for tests.

The building official may require that the tests be conducted in the presence of the building official or certified plumbing inspector. The owner or owner's representative shall keep records of the tests and inspections and shall submit such records to the building official upon request.

312.1 Required tests. The *owner or owner's representative* shall *cause* the applicable tests *and inspections* prescribed in Sections 312.2 through *312.11 to be performed* to determine *that the work will withstand the prescribed test without leakage and to demonstrate the integrity of the device or assembly. In accordance with OBC Section 108.8, reasonable advanced* notice *shall be given* to the *building* official when the plumbing work is ready for tests.

*The **Authority Having Jurisdiction** may require that the tests be conducted in the presence of the **AHJ's** building official or certified plumbing inspector. The owner or owner's representative shall keep records of the tests and inspections and shall submit such records to the building official upon request.*

In areas with split jurisdiction (Building Dept. & Health Dept.) so a Building Dept. does not circumvent the Health Dept.'s plumbing authority

*312.4 **Drainage and vent final test.** After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be subjected to one of the following final tests as prescribed by the building official:*

*312.4 **Drainage and vent final test.** After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be subjected to one of the following final tests as prescribed by the **Authority Having Jurisdiction)***

312.10.1 Inspections. *The owner shall maintain all backflow prevention assemblies and air gaps in good working condition.* Annual inspections shall be made of all backflow prevention assemblies and air gaps to determine whether they are operable.

312.10.1 Inspections. *The owner shall maintain all backflow prevention assemblies and air gaps in good working condition.* Annual inspections shall be made of all backflow prevention assemblies and air gaps **by Certified Backflow Testers** to determine whether they are operable.

Per Ohio Revised Code 3703.21 (8) (c)

501.4Location. Water heaters and storage tanks shall be located and connected so as to provide access for observation, maintenance, servicing and replacement.

501.4 Location. Water heaters and storage tanks shall be located and connected so as to provide access for observation, maintenance, servicing and replacement. **Add (and meet the requirements of IFGC Section 303)**

504.7.1 Pan size and drain. The pan shall be not less than $1^1/_2$ inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than $^3/_4$ inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4.

504.7.1 Pan size and drain. The pan shall be not less than $1^1/_2$ inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than $^3/_4$ inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table **702.1)**

Drains should comply with materials listed for drainage table 702.1

607.4 Flow of hot water to fixtures. Fixture fittings, faucets and diverters shall be installed and adjusted so that the flow of hot water from the fittings corresponds to the left-hand side of the fixture fitting.

Exception: Shower and tub/shower mixing valves conforming to ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1, where the flow of hot water corresponds to the markings on the device.

607.4 Flow of hot water to fixtures. Fixture fittings, faucets and diverters shall be installed and adjusted so that the flow of hot water from the fittings corresponds to the left-hand side of the fixture fitting. **On bath tub with individual deck mounted faucets, each faucet shall clearly be marked hot, cold or by international identifications**

Exception: Shower and tub/shower mixing valves conforming to ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1, where the flow of hot water corresponds to the markings on the device.

On garden style Tub/Whirlpool faucet may accessed from either side

702.5 Temperature rating. Where the waste water temperature will be greater than 140°F (60°C), the sanitary drainage piping material shall be rated for the highest temperature of the

702.5 Temperature rating. Where the waste water temperature will be greater than 140°F (60°C), the sanitary drainage piping material shall be rated for the highest temperature of the waste water, **or provide a means to cool waste water below 140*.**

TABLE 709.1
DRAINAGE FIXTURE UNITS FOR FIXTURES AND GROUPS

Shower (based on the total flow rate through showerheads and body sprays) Flow rate:		
5.7 gpm or less	2	1½
Greater than 5.7 gpm to 12.3 gpm	3	2
Greater than 12.3 gpm to 25.8 gpm	5	3
Greater than 25.8 gpm to 55.6 gpm	6	4

TABLE 709.1

Shower (based on the total flow rate through showerheads and body sprays) **Add (or Maximum Flow of the shower valve)** Flow rate:		
5.7 gpm or less	2	1½
Greater than 5.7 gpm to 12.3 gpm	3	2
Greater than 12.3 gpm to 25.8 gpm	5	3
Greater than 25.8 gpm to 55.6 gpm	6	4

Total flow is also regulated by the shower valve

TABLE 712.4.2
MINIMUM CAPACITY OF SEWAGE PUMP OR SEWAGE EJECTOR

DIAMETER OF THE DISCHARGE PIPE (inches)	CAPACITY OF PUMP OR EJECTOR (gpm)
2	21
2½	30
3	46

For SI: 1 inch = 25.4 mm, 1 gallon per minute = 3.785 L/m.

TABLE 712.4.2

DIAMETER OF THE DISCHARGE PIPE (inches)	CAPACITY OF PUMP OR EJECTOR (gpm)
¾"-2"	21
2½	30
3	46

For SI: 1 inch = 25.4 mm, 1 gallon per minute = 3.785 L/m.

Macerating system can be as small as ¾" and Grinder system can be as small as 1 ¼"

802.3 Waste receptors. For other than hub drains that receive only clear-water waste and standpipes, a removable strainer or basket shall cover the outlet of waste receptors. Waste receptors shall not be installed in concealed spaces. Waste receptors shall not be installed in plenums, crawl spaces, attics, interstitial spaces above ceilings and below floors. Ready access shall be provided to waste receptors.

802.3 Waste receptors. For other than hub drains that receive only clear-water waste and standpipes, a removable strainer or basket shall **be installed in** waste receptors. Waste receptors shall not be installed in concealed spaces. Waste receptors shall not be installed in plenums, crawl spaces, attics, interstitial spaces above ceilings and below floors. Ready access shall be provided to waste receptors

Outlet of waste receptors are usually inaccessible

901.3 Chemical waste vent systems. The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the outdoors or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste systems shall be constructed of materials approved in accordance with Section 702.5 and shall be tested for chemical resistance in accordance with ASTM F 1412

901.3 Chemical waste vent systems. The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the outdoors

AAV's have not been permitted in this application in the past. AVV's are generally installed in the same space as the fixture they serve.

AAV's are prone to fail and to have the possibility of a failure in occupied spaces and would subject the occupants to chemical or hazardous vapors

918.4 Prohibited installations. Air admittance valves shall not be installed in nonneutralized special waste systems as described in Chapter 8 except where such valves are in compliance with ASSE 1049, are constructed of materials approved in accordance with Section 702.5 and are tested for chemical resistance in accordance with ASTM F 1412. Air admittance valves shall not be located in spaces utilized as supply or return air plenums *or where limited by the manufacturer's installation instructions.* Air admittance valves without an engineered design shall not be utilized to vent sumps or tanks of any type.

1002.1 Fixture traps. Each plumbing fixture shall be separately trapped by a liquid-seal trap, except as otherwise permitted by this code. The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches (610 mm), and the horizontal distance shall not exceed 30 inches (610 mm) measured from the centerline of the fixture outlet to the centerline of the inlet of the trap. The height of a clothes washer standpipe above a trap shall conform to Section 802.4. A fixture shall not be double trapped.

Exceptions:

1. This section shall not apply to fixtures with integral traps.
2. A combination plumbing fixture is permitted to be installed on one trap, provided that one compartment is not more than 6 inches (152 mm) deeper than the other compartment and the waste outlets are not more than 30 inches (762 mm) apart.
3. A grease interceptor intended to serve as a fixture trap in accordance with the manufacturer's installation instructions shall be permitted to serve as the trap for a single fixture or a combination sink of not more than three compartments where the vertical distance from the fixture outlet to the inlet of the interceptor does not exceed 30 inches (762 mm) and the developed length of the waste pipe from the most upstream fixture outlet to the inlet of the interceptor does not exceed 60 inches (1524 mm).
4. Floor drains in multilevel parking structures that discharge to a building storm sewer shall not be required to be individually trapped. Where floor drains in multilevel parking structures are required to discharge to a combined building sewer system, the floor drains shall not be required to be individually trapped provided that they are connected to a main trap in accordance with Section 1103.1.

1002.1 Fixture traps. Each plumbing fixture shall be separately trapped by a liquid-seal trap, except as otherwise permitted by this code. The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches (610 mm), and the horizontal distance shall not exceed 30 inches (610 mm) measured from the centerline of the fixture outlet to the centerline of the inlet of the trap. The height of a clothes washer standpipe above a trap shall conform to Section 802.4. A fixture shall not be double trapped.

Exceptions:

1. This section shall not apply to fixtures with integral traps, **floor drains, floor sinks and hub drains)**
2. A combination plumbing fixture is permitted to be installed on one trap, provided that one compartment is not more than 6 inches (152 mm) deeper than the other compartment and the waste outlets are not more than 30 inches (762 mm) apart
3. A grease interceptor intended to serve as a fixture trap in accordance with the manufacturer's installation instructions shall be permitted to serve as the trap for a single fixture or a combination sink of not more than three compartments where the vertical distance from the fixture outlet to the inlet of the interceptor does not exceed 30 inches (762 mm) and the developed length of the waste pipe from the most upstream fixture outlet to the inlet of the interceptor does not exceed 60 inches (1524 mm).
4. Floor drains in multilevel parking structures that discharge to a building storm sewer shall not be required to be individually trapped. Where floor drains in multilevel parking structures are

required to discharge to a combined building sewer system, the floor drains shall not be required to be individually trapped provided that they are connected to a main trap in accordance with Section 1103.1.

Floor Drains, Hub Drains and Floor Sink type of fixtures generally have a fixture to trap distance of more than 24"

SECTION 1201
GENERAL

Scope. The provisions of this chapter *and Chapter 53 of the fire code* shall govern the design and installation of piping and storage systems for non- flammable medical gas systems and nonmedical oxygen systems. All maintenance and operations of such systems shall be in accordance with *Chapter 34 of* the *building code and the applicable chapters of the fire code*

SECTION 1201
GENERAL

Scope. The provisions of this chapter *and Chapter 53 of the fire code* shall govern the design and installation of piping and storage systems for non-flammable medical gas systems and **Medical oxygen systems.** All maintenance and operations of such systems shall be in accordance with *Chapter 34 of* the *building code and the applicable chapters of the fire code.*

Nonmedical oxygen is for process and is self regulated

Hanshaw, Regina

From: Humble, Lisa <Lisa.Humble@hamilton-co.org>
Sent: Monday, August 15, 2016 3:52 PM
To: Hanshaw, Regina
Cc: Michael Rudey (mrudey@co.wood.oh.us); Moore, Sean
Subject: RE: Ohio Plumbing Code Review
Attachments: Comments 2015OPC draft review.pdf

Hi Regina,

I have attached my comments regarding the draft language for the 2015 OPC. To reduce the amount of information I have only attached the pages with comments, underlined, strikeouts.

- Section 312.4 page 12
- Section 314 page 15
- Section 608 page 34
- Section 901 page 1

Thank you for this opportunity.

Lisa Humble
Director of Plumbing
Hamilton County Public Health
250 William Howard Taft Rd., 2nd Floor
Cincinnati, OH 45219
Phone: 513.946.7851
Fax: 513.946.7925

HAMILTON COUNTY PUBLIC HEALTH
PREVENT. PROMOTE. PROTECT.

Follow us on:

From: Regina.Hanshaw@com.state.oh.us [mailto:Regina.Hanshaw@com.state.oh.us]
Sent: Wednesday, July 13, 2016 10:27 AM
To: twanner@mapic.org; Rocco Fana, Jr (rocco@phccohio.org); 'mrudey@co.wood.oh.us'; Richardson, James A.; David Dexter (ddexter@fosdickandhilmer.com); Matthew T. Sciarretti; Humble, Lisa; Jester, Kevin; Jack.Soma@com.state.oh.us; Jason Shank
Cc: 'Joe Denk' (jdenk@denkassoc.com); Steven.Regoli@com.state.oh.us; debbie.ohler@com.state.oh.us
Subject: RE: Ohio Plumbing Code Review

4101:3-9-01 Vents.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:3-15-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

SECTION 901
GENERAL

901.1 Scope. The provisions of this chapter shall govern the materials, design, construction and installation of vent systems.

901.2 Trap seal protection. The plumbing system shall be provided with a system of vent piping that will permit the admission or emission of air so that the seal of any fixture trap shall not be subjected to a pressure differential of more than 1 inch of water column (249 Pa).

901.2.1 Venting required. Traps and trapped fixtures shall be vented in accordance with one of the venting methods specified in this chapter.

901.3 Chemical waste vent systems. The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the outdoors ~~or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste systems shall be constructed of materials approved in accordance with Section 702.5 and shall be tested for chemical resistance in accordance with ASTM F 1412.~~ Eliminate this venting method, allowing a AAV in a chemical waste system could be dangerous, as an AAV have a high rate of failure.

901.4 Use limitations. The plumbing vent system shall not be utilized for purposes other than the venting of the plumbing system.

901.5 Tests. The vent system shall be tested in accordance with Section 312.

901.6 Engineered systems. Engineered venting systems shall conform to the provisions of Section 919.

SECTION 902

assemblies shall be installed in accordance with the manufacturer's instructions and the requirements for labeling with the critical level not less than 1 inch (25 mm) above the flood level rim.

608.15.4.2 Hose connections. Sillcocks, hose bibbs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type or pressure-type vacuum breaker or a permanently attached hose connection vacuum breaker.

Exceptions:

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

608.16 Connections to the potable water system. Connections to the potable water system shall conform to Sections 608.16.1 through 608.16.10.

608.16.1 Beverage dispensers. The water supply connection to beverage dispensers shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or by an air gap. The portion of the backflow preventer device downstream from the second check valve and the piping downstream therefrom shall not be affected by carbon dioxide gas.

608.16.2 Connections to boilers. The potable supply to the boiler shall be equipped with a backflow preventer with an intermediate atmospheric vent complying with ASSE 1012 or CSA B64.3. Where conditioning chemicals are introduced into the system, the potable water connection shall be protected by an air gap or a reduced pressure principle backflow preventer, complying with ASSE 1013, CSA B64.4 or AWWA C511. This is in conflict with the Boiler code- the boiler code requires a high temperature reduced pressure principle backflow an ASSE 1013 max temperature is 180 degrees, a boiler is 250 degrees

608.16.3 Heat exchangers. Heat exchangers utilizing an essentially toxic transfer fluid shall be separated from the potable water by double-wall construction. An air gap open to the atmosphere shall be provided between the two walls. Heat exchangers utilizing an essentially nontoxic transfer fluid shall be permitted to be of single-wall construction.

*312.12 **Inspections.** No part of any plumbing or drainage system shall be covered until it has been inspected, tested, and approved, except as provided in this section.*

Failure of the inspector to inspect the work within four days, exclusive of Saturdays, Sundays, and legal holidays, after the work is ready for inspection, allows the work to proceed.

SECTION 313
EQUIPMENT EFFICIENCIES

313.1 General. Equipment efficiencies shall be in accordance with *the applicable standard referenced in Chapter 13 of the building code or Chapter 11 of the "Residential Code of Ohio".*

SECTION 314
CONDENSATE DISPOSAL- Never was a part of the plumbing system/fixture. Would like to see this remain out of our plumbing code.

314.1 Fuel-burning appliances. Liquid combustion byproducts of condensing appliances shall be collected and discharged to an approved plumbing fixture or disposal area in accordance with the manufacturer's instructions. Condensate piping shall be of approved corrosion-resistant material and shall not be smaller than the drain connection on the appliance. Such piping shall maintain a horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope).

314.2 Evaporators and cooling coils. Condensate drain systems shall be provided for equipment and appliances containing evaporators or cooling coils. Condensate drain systems shall be designed, constructed and installed in accordance with Sections 314.2.1 through 314.2.5.

314.2.1 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.

314.2.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polyethylene, ABS, CPVC or PVC or polypropylene pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 7 relative to the material type.

system), an air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 psi (34.5 kPa) or sufficient to balance a 10-inch (254 mm) column of mercury. This pressure shall be held for a test period of at least 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperature or the seating of gaskets shall be made prior to the beginning of the test period. *Testing shall be done with a dual pressure relief valve rated for 7.5 psig.*

312.2.3 Alternative drainage and vent rough–in test. *When permitted by the manufacturer of the piping, fittings, and solvent cement (if part of the plumbing system), an alternative method of testing the drainage and vent system, such as compressed gas or vacuum, may be permitted to meet the drainage and vent rough-in test requirements of this code as long as the test is conducted strictly in accordance with the requirements published in the manufacturer's installation instructions.*

312.3 Not used.

312.4 Drainage and vent final test. *After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be subjected to one of the following final tests as prescribed by the building official, Health Commissioner or Health Commissioner Designee:*

312.4.1 Visual and operational final test. *All plumbing fixtures shall be operated and a visual inspection of accessible piping and joints shall be performed to determine that there are no visible leaks.*

312.4.2 Drainage and vent final test. *The final test of the completed drainage and vent systems shall be made, after the fixtures are connected, as follows:*

1. Close all stack openings;
2. A manometer tube shall be placed through a trap seal to the system side and water shall be added to a fixture until an equivalent of at least 1 in. water column (248.8 Pa) is read on the manometer gauge or water-can. Water may be added to a water closet bowl or trap tailpiece extension until the water level is at least one inch higher than the original trap seal;
3. Maintain the initial water column for fifteen (15) minutes;
4. The system shall then be separated at a trap seal, AAV, or other means as directed by the plumbing inspector for verification that the entire system is interconnected.

CPI's Proposed Revisions to
The Ohio Plumbing Code

312.2.3 ***Alternative drainage and vent rough–in test.*** *When permitted by the manufacturer of the piping, fittings, and solvent cement (if part of the plumbing system), an alternative method of testing the drainage and vent system, such as compressed gas or vacuum, may be permitted to meet the drainage and vent rough-in test requirements of this code as long as the test is conducted strictly in accordance with the requirements published in the manufacturer's installation instructions* ***Additionally, the Contractor may select another method of testing that is generally accepted as effective, as long as the Contractor is willing to accept potential liability.***

312.4 ***Drainage and vent final test.*** *After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be subjected to one of the following final tests as prescribed by the* ~~*building official*~~*:* ***authority having jurisdiction (Certified Plumbing Inspector).***

410.3 Provide ~~**high and**~~ **low drinking fountains.** Where drinking fountains are required, ~~not fewer than two drinking fountains shall be provided. One drinking fountain~~ **they** shall comply with the requirements for people who use a wheelchair and ~~one drinking fountain shall comply with the requirements for~~ **that same drinking fountain shall be used by** standing persons.

411.1 Waste connection. Waste connections shall **have a waste receptor for** ~~not be required for~~ emergency showers and eyewash stations.

601.5 Rehabilitation of piping systems. Where pressure piping systems are rehabilitated using an epoxy lining system, such lining system shall comply with ASTM F 2831. **These epoxy lining systems shall be installed by OCILB licensed Contractors.**

607.2.1.2 Demand recirculation controls for distribution systems – Deleted in deference to the design and engineering professionals. ~~A water distribution system having one or more recirculation pumps that pump water from a heated water supply pipe back to the heated water source through a cold water supply pipe shall be a demand recirculation water system. Pumps shall have controls that comply with both of the following:~~

1. ~~The control shall start the pump upon receiving a signal from the action of a user of a fixture or appliance, sensing the presence of a user of a fixture, or sensing the flow of hot or tempered water to a fixture fitting or appliance.~~
2. ~~The control shall limit the temperature of the water entering the cold water piping to 104°F (40°C).~~

REPLACEMENT OF ~~UNDERGROUND~~ BUILDING ~~SEWERS~~ DRAINS BY PIPE-BURSTING METHODS

(Reconstitute this section plus add the following: These epoxy lining systems shall be installed by OCILB licensed Contractors.)

901.3 Chemical waste vent systems. The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the outdoors. ~~or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste systems shall be constructed of materials approved in accordance with Section 702.5 and shall be tested for chemical resistance in accordance with ASTM F 1412.~~

1102.4 Replacement of Building storm ~~sewer~~ Drain pipe by Pipe Bursting Methods. ~~*Deleted.*~~

(Reconstitute this section plus add the following: These epoxy lining systems shall be installed by OCILB licensed Contractors.)

1202.1 Nonflammable medical gases. Nonflammable medical gas systems, inhalation anesthetic systems and vacuum piping systems shall be designed and installed in accordance with NFPA 99 - **15**.

1301.1 Scope. ~~*The content of this model code chapter has been deleted.*~~ *On-Site Nonpotable Water Reuse Systems, Nonpotable Rainwater Collection and Distribution Systems, and Reclaimed Water Systems are considered Private Water Systems as defined in Section 3701.344 of the Revised Code. Private water systems and recycled water systems are regulated by the Ohio Department of Health rules found in Chapter 3701-28 of the Administrative Code.*

(Reconstitute this section plus add the following: These epoxy lining systems shall be installed by OCILB licensed Contractors.)

Hanshaw, Regina

From: David Dexter <plbgegr@aol.com>
Sent: Sunday, August 21, 2016 8:11 PM
To: Hanshaw, Regina
Cc: 'Dexter (wk) - new, David'
Subject: Ohio Plumbing Code

Regina,

First, thank you for including me in the code review process, I hope my comments are beneficial and constructive.

Second, I strongly support adopting the model code as written, without State or Local alteration. Yes certain changes must be made to conform with Ohio law, but those should be keep to the absolute minimum.

Where various staffers and code officials recommend changes to the model code, they should be submitted through the model code process, not made as amendments to the Ohio Codes. If such changes truly have merit, they will make their way into the model code. And if they do not, then the submitter needs to look at the reasoning and provide support. But State and Local changes should be avoided at every turn.

CHAPTER 2 Definitions

Section 202 GENERAL DEFINITIONS:
ABOVE-GROUND STORAGE TANK: What is the purpose of this definition within the plumbing code? As the plumbing code is limited to 30" outside of the building line, it would have no reference within the plumbing code. Unless it was on the roof of the structure and that is not mentioned within the definition.

ALTERNATE ON-SITE NONPOTABLE WATER: How does this work where the "Building Department" has jurisdiction over the facilities plumbing systems. This would not be an issue where the "Health Department" had jurisdiction over the plumbing systems, but has conflict written all over it in "Building Department" jurisdictions.

APPROVED: What is the purpose of rewording the Model Code language? The Model Code language seems adequate, the other wording is just wordsmithing.

APPROVED AGENCY: What is the purpose of rewording the Model Code language? The Model Code language seems adequate, the other wording is just wordsmithing.

BACKFLOW PREVENTER: I concur that "CONTAINMENT" and "ISOLATION" should be added to the definitions. But why not use the EPA (Environmental Protection Agency) definitions instead of the long worded version. Ohio should also present these definitions to the Model Code.

BUILDING: Why the deviation from the Model Code? They both seem to say the same thing without all of wordiness'.

BUILDING OFFICIAL: What is the purpose of adding this to the plumbing code? The term, as is being pointed out, is defined in the "Administrative Code."

BUILDING SERVICE EQUIPMENT: Ohio should forward this to the Model Code for inclusion therein.

BUILDING SERVICES PIPING: Ohio should forward this to the Model Code for inclusion therein.

CODE: What is the purpose of rewording the Model Code language? The Model Code language seems adequate, the other wording is just wordsmithing.

CODE OFFICIAL: What is the purpose of rewording the Model Code language? The Model Code language seems adequate, the other wording is just wordsmithing.

COLLECTION PIPE: Why add the additional verbiage? This will be difficult, if not impossible to enforce where the plumbing systems are under the "Building Department" and the "Health Department" is interjected into the process. It is much less of a problem if the plumbing systems are under the "Health Department."

CONSTRUCTION DOECUMENTS: What is the purpose of rewording the Model Code language? The Model Code language seems adequate, the other wording is just wordsmithing. And why delete "The construction drawings shall be drawn to an appropriate scale."?

CONTAINMENT BACKFLOW PREVENTION DEVICE: It should only be defined once within the code; previously defined under "Backflow Preventer." Calling it out in more than one location is problematic, in that one may get changed over time and the other not. The definition should follow EPA definition, not create another wording.

ISOLATION BACKFLOW PREVENTION DEVICE: It should only be defined once within the code; previously defined under "Backflow Preventer." Calling it out in more than one location is problematic, in that one may get changed over time and the other not. The definition should follow EPA definition, not create another wording.

ENGINE-MOUNTED TANK: I have no problem with the definition, but must question why it is within the plumbing code. Fuel piping is not addressed within the plumbing code.

EXISTING INSTALLATION: Why reword the Model Code, just to split hairs over "a permit" and "an approval." While I prefer the "an approval," it should be vetted through the code process. Individual jurisdictions should not be changing the Model Code for such wording considerations.

FIRE CODE: This is the "PLUMBING CODE," such a definition of "FIRE CODE" belongs in that code.

FUEL TANK: This is the PLUMBING CODE, so why insert it into the definitions. This more appropriately belongs in the "Ohio Mechanical Code" or "Ohio Fire Code."

GRAY WATER: The mixing of "Building Department" and "Health Department" is a jurisdictional problem, depending on who has jurisdiction over the plumbing systems.

HUB DRAIN: I have no objection to inserting this definition through the Model Code process, but question adding it by jurisdiction.

INDIVIDUAL WATER SUPPLY: This definition works for well systems but has jurisdictional complications associated with recycled water when the "Building Department" has jurisdiction over the plumbing systems.

ISOLATION BACKFLOW PREVENTION DEVICE: It should only be defined once within the code; previously defined under "Backflow Preventer." Calling it out in more than one location is problematic, in that one may get changed over time and the other not. The definition should follow EPA definition, not create another wording.

JURISDICTION: This is an administrative item associated with Chapter 1. Why is it being inserted into the Plumbing Code?

LABEL: This definition does have relevance to plumbing, but it should be inserted through the Model Code process.

LISTED: This definition does have relevance to plumbing, but it should be inserted through the Model Code process.

MECHANICAL CODE: This is the "PLUMBING CODE," such a definition of "MECHANICAL CODE" belongs in that code.

NUISANCE: Why is it necessary to alter the Model Code language?

ON-SITE NONPOTABLE WATER REUSE SYSTEM: The mixing of "Building Department" and "Health Department" is a jurisdictional problem, depending on who has jurisdiction over the plumbing systems.

POWER PIPING: This is something unique to Ohio, but it should also be pushed to the Model Code. Nothing with this definition falls within the scope of "Plumbing" as covered by the Plumbing Code, so why is it defined within the "Plumbing Code?"

PROCESS PIPING: This is something unique to Ohio, but it should also be pushed to the Model Code. Nothing with this definition falls within the scope of "Plumbing" as covered by the Plumbing Code, so why is it defined within the "Plumbing Code?"

PUBLIC NUISANCE: This is an Ohio definition that should be pushed with the Model Code into the definition of NUISANCE.

PUBLIC SEWER: I believe that the correct terminology would be *"public right of way"* not *"public way."*

RECALIMED WATER: The mixing of "Building Department" and "Health Department" is a jurisdictional problem, depending on who has jurisdiction over the plumbing systems.

REGISTERED DESIGN PROFESSIONAL: Why is the Model Code portion deleted? The model code statement is correct and could have been complimented with the added Ohio verbiage.

RODENT PROOFING: Are "Rodent's" unique to Ohio? Adding the definition is acceptable, but this needs to be sent through the model code process. Jurisdictional variance form the model code should be minimized.

SEWER, Public sewer: I believe that the correct terminology would be *"public right of way"* not *"public way."*

SINK, SERVICE: Is this something unique to Ohio? This should be pushed to the model code for inclusion.

SWIMMING POOL: This is "Plumbing Code," so why add or discuss "Swimming Pool." Swimming pools may have piping that plumber's sometimes install, it is not covered by "Plumbing Code."

WASTE RECEPTOR: Why alter the Model Code definition? If Ohio believes they have a better definition, then present it through the model code process. The definition as presented has undefined terms: trench drain, standpipe, mop basin and laundry tray. While most plumbers know these terms, they should be defined for clarity.

WELL; Bored, Drilled, Driven, Dug: Actually, none of these are related to plumbing as covered by the Plumbing Code. However, why delete their definitions unless they conflict with the Ohio Administrative Code?

CHAPTER 3, yes I know you indicated this was not up for review, but I have to point out a problem with 312.2.2 Drainage and vent rough-in air test, "Testing shall be done with a dual pressure relief valve rated at 7.5 psig." I do not believe that such a relief valve exists nor can I find a definition for such. I believe the intent was to provide dual relief valves for redundancy and safety; one set at 7.5 psig and the other at 8 psig. This would allow for safety should the first valve fail to operate, the second would open within a reasonable safe pressure level.

CHAPTER 4 Fixtures, Faucets and Fixture Fittings

403.1: Why the additional language within the section? If it is being determined by the Building Official, then it is in the Building Code. So why is it necessary to add the verbiage or the exception within the Plumbing Code?

Table 403.1: Modification to the table seem appropriate as they match the Building Code, but why not pass these up to the Model Code process?

403.1.2: This wording should be coordinated with the Model Code.

403.2: Exception 4 should be passed up to the Model Code process.

403.3.1: This wording should be coordinated with the Model Code.

403.4.1: Why was this deleted?

403.6: While it is nice to provide explanatory language, it requires continued close coordination between the two sections. It would be better to simply add "see section 2902 of the building code" to section 403.5, than add an "Enforcement" section.

404.1: If this section is part of the building code, then why not simply add "see Chapter 11 of the Building Code." The additional verbiage is not germane to the Plumbing Code.

404.4: While interesting, why not simply add "refer to the Building Code" to section 404.3 instead of adding another section.

405.3.1: Keep it simple, "refer to Chapter 11 of the building code for minimum accessibility requirements."

405.6: Why was this deleted? It is plumbing related and no other reference was provided.

410.4: This wording should be coordinated with the Model Code.

417.5.2, Exception 3: Why was this added? This is a commercial code. Since Ohio has a "Residential Plumbing Code," the exception belongs there, not here. Although, the laws of science and physics do not change between commercial and residential, Ohio should have a single code. Given that the code is for the protection of public health, safety and welfare; such testing should be required or the contractor provide a 10-year warranty on the shower base.

CHAPTER 5 Water Heaters

501.1 The wording should be inclusive of the section, not an "exception." The wording should be; ".... appurtenances up to a heat input of two hundred thousand BTU per hour, water temperature of two hundred ten degrees Fahrenheit or normal water containing capacity of one hundred twenty gallons. Water heaters exceeding these limits are classified as boilers or pressure vessels; covered by the Ohio Boiler and Pressure Vessels rules in Chapters 4101:4-1 to 4101:4-10 of the Administrative Code." This should this also be coordinated with the Model Code.

502.1.1, Exception: Coordinate this with the Model Code.

504.2: ANSI Z21.22 is not an accurate reference. ANSI (American National Standard Institute) does not develop standards of any type or kind. They are solely responsible for the process under which standards are developed by recognized standard developers. It is the developing organization that is responsible for the standard, developed under the ANSI process. In this case, I believe the correct designation should be ASME/ANSI Z21.22. Ohio, as a leader should bring this up through the Model Code process.

504.4: See comment for 504.2.

504.4.1: See comment for 504.2.

CHAPTER 6 Water Supply and Distribution

601.1: This mixing of "Building Departments" and "Health Departments" has many problems, depending on who has jurisdiction over plumbing within a facility. Such complication are much less when the "Health Department" has jurisdiction over plumbing within the facility. Alto, **ALL PLUMBING WORK** should be under a single jurisdiction and code within the "Building Department. The "Health Department" needs to get out of the construction industry and leave that to the "Building Department" and codes developed through a consensus model code process. Exception 2 is meaningless within the Plumbing Code, as Public Water Systems are more than 30" outside of the building line.

602.3: Why is this information removed from the code? The descriptive information is useful in understanding possible individual water supplies. Additionally, there is no supplemental information to indicated who has responsibility for protecting the public's health, safety and welfare. Such protection of the public's health, safety and welfare is the Board's primary responsibility.

603.2: Why is the deleted? In deleting this the Board has removed any requirement for separation as the water service and sewer enter/leave the building, some guidance should be provided.

603.2.1: If section 603.2 is deleted, so should its sub sections. As this work is more than 30" outside of the buildings' perimeter, it is not covered by this or the building code.

603.3: Why is this being added? Rules and regulations related to water services, building sewers or sources of pollution are not within the scope of the Building Code or those that enforce it. Exterior work, water services, sewers, etc. are under the jurisdiction of the Ohio Environmental Protection Agency and their regulated utility purveyors or the Health Department.

605.2: This language needs to be coordinated with and advanced through the Model Code process, including the exceptions.

606.5.5.1: Why is the language being modified? The Board has no involvement with or authority over another agency's rules or regulations. The requirement is clearly stated as presented in the Model Code. If any thing, the rule should only be modified to the extent of; "…. suction side of the pump, while operating, coordinate with the local water purveyor." This should be coordinated and advanced through the Model Code process.

607.1: This should be coordinated with and advanced through the Model Code Process.

607.2.1: Why is this being modified from the Model Code language? The Energy Code addresses means of control.

607.5: Why the reference to Chapter 11 of the "Residential Code of Ohio?" This is a commercial code, Ohio has a separate residential code and the two should not mix. Although, I personally believe there should only be one code, the laws of science and physics do not know the difference between commercial and residential.

608.1: Why add "within a building?" This is part of the "Building Code" and as such all references' within the code are inside. Since we are in the building by code, why add building before potable? What is the purpose of adding "isolation backflow prevention device applications" into the text? As this is within the building; it is isolation by definition. The device, itself, does not know or care about isolation or containment, just backflow prevention.

608.3: It is not possible to list every potential device or piece of equipment, so why add "water-powered sump pump?" The term "water pumps" is inclusive of water-powered sump pump.

608.17: This should be coordinated and advanced through the Model Code process.

CHAPTER 7 Sanitary Drainage

701.1: As this is a Plumbing Code within the limits of the Building Code, the refer to "sanitary drainage systems" is within the limits of the building. Therefore, it is not necessary and somewhat inappropriate to add language about section 3781.03 of the Revised Code. That section has to do with sanitary drainage system that are exterior of the "building" and therefore not covered by this code. This is also applicable to the "Exception" addition, it is outside the scope of the "Building Code."

701.2: I am not aware of any exception by the OEPA to the requirements of this section, so why change the wording of the Model Code? Removal of the reference to the "International Private Sewage Disposal Code is appropriate, as such systems are not covered by the "building Code."

701.3: What is the purpose of changing the Model Code language? The statement, simple states that building drains shall leave the building separately and connect to the appropriate point of disposal. The added language is not necessary.

701.4: The language of the Model Code covers the OEPA indirectly by the statement of "approved." Rewording the section is unnecessary.

708.1.2: As Building Sewers are exterior of the building and not covered by the "Building Code," why was this left in the plumbing code.

712.2, exception: As the Ohio Plumbing Code is a commercial code, why is this "Residential Code" being called out?

715.1: Why is this Model Code section being revised? This is part of the Plumbing Code. The OEPA and local sewer purveyors are involved with things outside of the Building Code. "If" is a big word, this should only be included when there is some certainty that the OEPA would require such a valve.

CHAPTER 8 Indirect/Special Waste

802.1, exception: Why is this being added? This is covered by the code's reference to "Manufacturer's installation instructions" and sound engineering practice.

CHAPTER 9 Vents

903.1: If the "... within 10 feet of occupiable area" is needed, present it through the Model Code process, do not jurisdictionalize the code.

913.2 If "... clinic or flushing rim sink" is needed, present it through the Model Code process, do not jurisdictionalize the code.

915.2: If "... of a sink, lavatory or drinking fountain" is needed, present it through the Model Code process, do not jurisdictionalize the code.

918.8: If "... or where limited by the manufacturer's installation instructions" is needed, present it through the Model Code process, do not jurisdictionalize the code.

CHAPTER 10 Traps, Interceptors and Separators

1001.1: Why is this being modified? The Plumbing Code is only applicable to the inside of the building. Building sewers are outside of the Plumbing Code. The comment, while applicable to sewers is not relevant to the Plumbing Code.

1002.4.1, exception: This is a commercial code! Any discussion relevant to residential code, belongs in the Residential Code, not in this code.

1003.1: What is the purpose of modifying the Model Code language? The model code language limits the discharge of harmful or hazardous substances from the building's plumbing system. The inserted verbiage has to do with something outside of this code's jurisdiction.

1003.1.1: Industrial processes, meat packing and food processing facilities are outside of the "Plumbing Code," so why inject them into the code.

CHAPTER 11 Storm Drainage

1101.2: This is a commercial code, why leave the reference to "For one-, two- and three- family ....."

1110.1: Section 312 stands on its own, why make reference here?

1113.1.4, exception: This is a commercial code, no reference to the "Residential Code" should be made in this code.

1113.1.5: If this is needed, present it through the Model Code process, do not jurisdictionalize the code.

CHAPTER 12 Special piping and storage systems

1201: Why alter the Model Code language? The scope, as written, states the same thing without specific fire code chapter references'. The Ohio Fire code should be sufficient reference. Chapter 34 of the Building Code, related to existing buildings' has little impact.

1201.1, exception 2: Why is this deleted? The Ohio Mechanical Code does provide guidance on such exhaust termination.

CHAPTER 13 Nonpotable water systems

This might be acceptable where the Health Department has jurisdiction over plumbing. However, it will be a problem where the Building Department has jurisdiction. Water systems within a building are under the purview of the Plumbing Code, that responsibility cannot be transferred to another agency without specific legislation to affect such a transfer of jurisdiction.

Thank you for allowing me the privilege of participating in the code review process. Again, I apologize for the lateness of may comments.

David Dexter, F.NSPE, F.ASPE
Registered Professional Engineer
Mechanical, Plumbing & Fire Protection
FOSDICK & HILMER
525 Vine Street
Suite 1100
Cincinnati, OH 45202
Phone: (513) 241-5640 ext 281
Direct: (513) 419-4281

Fax: (513) 241-3659
Cell: (937) 609-5969
E-mail: ddexter@fheng.com
http://bcert.me/sqwacirp

OPC 2015 Review by Kevin Jester

303.4 ***Approved agency testing and*** **certification.** All plumbing products and materials shall be listed by *and approved* agency as complying with the *applicable* referenced standards. Products and materials shall be identified in accordance with Section 303.1. [typo]

Enforcement 314.3, 403.6, 404.4 and 603.3

314.3 Enforcement. *Enforcement of the provisions of this section is the responsibility of the certified building official of the certified municipal, county, or township building department having jurisdiction or the superintendent of the division of industrial compliance.* [or General Health Districts.

403.6 Enforcement. *This section is identical to Section 2902 of the building code. It is provided in this code for reference only. Enforcement of the provisions of Section 2902 of the building code and this section is the responsibility of the ~~certified~~ building official of the certified municipal, county, or township building department having jurisdiction or the superintendent of the division of industrial compliance [or the health commissioner for the Health District]*

404.4 Enforcement. *Enforcement of the provisions of this section is the responsibility of the ~~certified~~ building official of the certified municipal, county, or township building department having jurisdiction or the superintendent of the division of industrial compliance*

603.3 Enforcement. *Enforcement of the provisions of this section is the responsibility of the ~~certified~~ building official of the certified municipal, county, or township building department having jurisdiction or the superintendent of the division of industrial compliance [or the health commissioner for the Health District]*

I do not believe a Health Commissioner is a "certified" building official, so Health Commissioner or Health Department should be included, see following definition.

Or strike ~~certified~~ building official [I do not see "certified" building official in the definitions]

BUILDING OFFICIAL. The *superintendent of the division of industrial compliance of the Ohio department of commerce or the person appointed by the superintendent to enforce this code in that division, or the designated authority charged with the administration and enforcement of this code, approved by the board in accordance with section 103 of this code, in a municipal corporation, township or county having a building department, certified by the board pursuant to section 3781.10 of the Revised Code, or the health commissioner or his authorized representative in health districts, whichever one has jurisdiction.*

504.6 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.

4 Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Terminate not more than 6 inches (152 mm) above and not less than two times the discharge pipe diameter above the floor or flood level rim of the waste receptor [exception: cannot discharge to a laundry sinks and service sink]. Reason: potential for scalding on 210 degree discharge since occupants can reach into said sinks.]
11. Not have a threaded connection at the end of such piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.

WASTE RECEPTOR. *A device for receiving the discharge of a waste pipe or pipes and discharges them by gravity into the sanitary drainage system. Waste receptors include, but are not limited to, floor drains, floor sinks, trench drains, hub drains, standpipes, mop basins, service sinks, and laundry trays.*

901.3 Chemical waste vent systems. The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the outdoors or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste systems shall be constructed of materials approved in accordance with Section 702.5 and shall be tested for chemical resistance in accordance with ASTM F 1412. [caution should be exercised in using AAV's in a chemical system since they are primarily used indoors and do have a potential to fail and allow dangerous fumes into the occupied area. These waste vents should be terminated to the outside.]

918.4 Location. Individual and branch-type air admittance valves shall be located a minimum of 4 inches (102 mm) above the horizontal branch drain or fixture drain being vented. Stack-type air admittance valves shall be located not less than 6 inches (152 mm) above the flood level rim of the highest fixture being vented. The air admittance valve shall be located within the maximum developed length permitted for the vent. The air admittance valve shall be installed not less than 6 inches (152 mm) above insulation materials. [caution should be exercised in using AAV's in a chemical system since they are primarily used indoors and do have a potential to fail and allow dangerous fumes into the occupied area. These vents thould be terminated to the outside.]

October 28, 2016 Stakeholder Meeting
Ohio Plumbing Code Update Rules

Attendees:
Rocco Fanna, PHCC Ohio
Herm Bohinc, PHCC Ohio
Thomas Warner, CPI
Jason Shank, CPI
Shawn Gray, CPI
Daniel Nicholson, Lake County General Health
Ronne Branson, OAPI
Charles McNaught, OAPI
Paul Buehrer, City of Oregon
Brian Fraley, Heapy Engineering
Matt Sciaretti, Heapy Engineering

Staff Present:

Regina Hanshaw
Steve Regoli
Debbie Ohler
Jay Richards

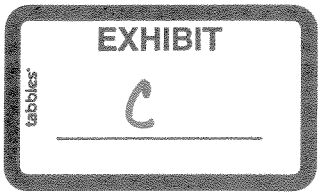
Board presented overview of proposed changes to the Ohio Plumbing Code (attached).

Comments Submitted:

Definitions

Jack Soma, DIC, asked whether recycled waters systems regulated by Department of Health would also include graywater. Board staff responded that it would.

Jason Shank, CPI, asked how whether the recycled water system would still be a plumbing system. Board staff responded that the Board is working with the Department of Health to coordinate rules for recycled water systems, but Department of Health would be regulated the water supply and quality of water. If it was being brought building through the plumbing system, it would then fall within the plumbing code scope.



Section 305.4

Jason Shank asked whether the requirement to protect from freezing would follow the manufacturer's instruction and if a new method comes out and the design professional specs it, then it can be used. Staff responded that yes, the Board did not was to prescribe a particular method.

Section 411.2

Tom Warner, CPI, requested a change to require eyewash station to be connected to a drain and stated that insurance companies are requiring it now. Staff responded that the code does not prohibit it from being connect, it just does not require it.

Section 601.5

Tom Warner stated that CPI requested that rehabilitation of piping should be inspected by a certified plumbing inspector. Board staff responded that that plumbing inspectors would be verifying compliance with the plumbing code.

Jack Soma asked whether homebuilders have expressed concern over the change from 100 to 50 feet. Board staff responded that the update to OPC would not impact 1-, 2- & 3- family until the changes are reviewed by the RCAC and the Board for incorporation into the residential code.

Section 607.2

Dan Nicholson, Lake County, asked who inspects insulation, plumbing or building inspector. Board staff responded that there should be some coordination between the two and in the context of the health district the plumbing inspector should be able to inspect as long as only inspecting plumbing systems.

Chapter 9

Tom Warner asked the Board keep existing numbering system as all training and enforcement materials will now need to be changed. Board staff responded to keep the existing number system, all internal OPC references to Chapter 9 would need to checked and coordinated as well.

Section 901.3

Jason Shank stated that chemical waste systems should be vented to open air.

General Comment

Dan Nicholson asked whether the code will require a backflow preventer for city water supply or is that up the water purveyor. Board staff responded that is up to the purveyor.

Section 312

Jack Soma stated that he has submitted a petition to remove the rough in test and inspectors would only inspect the install and fittings used and rely on the final test and that Charlotte pipe was modifying its installation instruction to recognize the 1" column test, can test and smoke/peppermint tests.

Tom Warner stated that CPI would support the elimination of the rough in test since the contractor is liable anyhow.

Dan Nicholson raised concerns that the code is now not following manufacturer's installation requirements. Board staff responded that current charging paragraph of section 312 requires any method used must still follow installation instructions.

Dan Nicholson stated that he would be ok with elimination of the rough test since the contractor is responsible anyhow.

Mike Sciaretti, Heapy, was concerned by eliminating the test and as a designer they would continue to spec regardless code requirements.

Hanshaw, Regina

From: Richardson, James A. <JARichardson@columbus.gov>
Sent: Friday, October 07, 2016 1:05 PM
To: Hanshaw, Regina
Subject: RE: Ohio Plumbing Code Review

I was reviewing the proposed OPC and I thought I'd pose 1 question to you. Based on a conversation you and I previously had, the ICC model codes have references to definitions italicized but the State of Ohio choose to only italicize changes made to the model code adopted by Ohio. If I recall correctly, there used to be black bars printed along the side of the paragraphs where changes were made and possibly they may have even been underlined. I feel removing the italicized reference back to the definitions is a huge mistake. The purpose or intent of a code section can be misinterpreted without the references. If the State chooses to stay with how they have been removing these references, is it possible to either have those references printed in bold and/or underlined?

Regards,

James A. Richardson Jr.
City of Columbus
Building and Zoning Services
Plumbing Inspection Supervisor
614-645-6340
plumbinginfo@columbus.gov
http://www.columbus.gov/bzs/inspections/Plumbing/

THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR

DEPARTMENT OF BUILDING
AND ZONING SERVICES

From: Regina.Hanshaw@com.state.oh.us [mailto:Regina.Hanshaw@com.state.oh.us]
Sent: Friday, October 07, 2016 12:47 PM
To: Richardson, James A.
Subject: RE: Ohio Plumbing Code Review

I know about it. I am trying to get IT to correct it which is why the link has not been sent yet.

From: Richardson, James A. [mailto:JARichardson@columbus.gov]
Sent: Friday, October 07, 2016 12:47 PM
To: Hanshaw, Regina <Regina.Hanshaw@com.state.oh.us>
Subject: RE: Ohio Plumbing Code Review

You work very fast, I just saw this posted in your resources page. Just a point of reference, I would hope the OPC would be based off of the IPC, not the IMC. Just figured you'd want to know about the clerical error. Hope you have a great weekend Regina.

Hanshaw, Regina

From: twanner@mapic.org
Sent: Thursday, October 27, 2016 10:29 AM
To: Hanshaw, Regina; Hanshaw, Regina
Cc: smann@mapic.org; krolland@mapic.org; Jason Shank; John Marotta; Michael J. Gallagher; jimroddyjr@nopinc.com; Scott Wallenstein; Jeff Epstein; millerplg@aol.com; sgray@plumbers55.com
Subject: Plumbign Code Stakeholders Meeting Tomorrow.

Hi Regina,

CPI reviewed the proposed Ohio Plumbing Code and has the following recommendations:

---Gray Water Definition: This proposed definition seems to allow these fixtures to be treated like a separate system outside of the plumbing code, meaning they would not be inspected or installed by Plumbing Contractors or Inspectors. It begs the question of who would be doing these important steps to insure the health and safety of Ohio's citizens. Section 301.3 also should be corrected.

---312.4 Drainage and Vent Final Test: Test options should be prescribed by the Plumbing Inspector not by the Building Official. The plumbing industry may not have a relationship with the Building Official, and he probably in not a Plumbing Inspector. The person making this decision should be a plumbing expert.

---411.2 Waste Connection: CPI feels strongly that emergency showers and eyewash stations should have a waste connection. Also, it has come to CPI's attention that the Insurance Industry is looking into this issue and may also be supportive of our change.

---601.5 Rehabilitation of Piping Systems: To the end of this singular sentence, add "...and shall be inspected by a Certified Plumbing Inspector."

---901.3 Chemical Waste Vent Systems: Air Admittance Valves should not be permitted for this application. The first generation of these valves are beginning to fail all across the State. These systems are too dangerous to be trusted with Air Admittance Valves.

---717 Replacement of Underground Building Sewers, and 1102.4 Building Storm Sewer Pipe: CPI would like to see this changed from "sewer" to "drain" and included in the Plumbing Code as with 601.5. These systems are going into buildings and not just sewers. They should be treated as new installations – Permitted and Inspected.

---Chapter 9: Use the old numbering system instead of the IPC 2015 proposed numbering system. Since we originally changed to the IPC code the numbering system has been the same, and for no apparent reason it has changed. Adding of the single stack venting system at the end of chapter 9 (920) is preferable. There will be a lot of confusion for Inspectors, Plumbers, Contactors and Engineers due to this proposed change.

At the BBS Hearing on Friday, October 28, 2016, CPI would appreciate the Board's consideration of these recommendations. CPI expects to have 2 or 3 members in attendance and willing to participate.

Thanks,

Tom

Thomas Wanner
Mechanical and Plumbing Industry Council
950 Keynote Circle #40
Cleveland, Ohio 44131
twanner@mapic.org
216-459-0770 Office
216-459-1342 Fax
216-870-8885 Cell

CPI's Proposed Revisions to
The Ohio Plumbing Code

312.2.3 ***Alternative drainage and vent rough–in test.*** *When permitted by the manufacturer of the piping, fittings, and solvent cement (if part of the plumbing system), an alternative method of testing the drainage and vent system, such as compressed gas or vacuum, may be permitted to meet the drainage and vent rough-in test requirements of this code as long as the test is conducted strictly in accordance with the requirements published in the manufacturer's installation instructions* ***Additionally, the Contractor may select another method of testing that is generally accepted as effective, as long as the Contractor is willing to accept potential liability.***

312.4 ***Drainage and vent final test.*** *After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be subjected to one of the following final tests as prescribed by the* ~~*building official:*~~ ***authority having jurisdiction (Certified Plumbing Inspector).***

410.3 **Provide** ~~**high and**~~ **low drinking fountains.** Where drinking fountains are required, ~~**not fewer than two drinking fountains shall be provided. One drinking fountain**~~ **they** shall comply with the requirements for people who use a wheelchair and ~~**one drinking fountain shall comply with the requirements for**~~ **that same drinking fountain shall be used by** standing persons.

411.1 **Waste connection.** Waste connections shall **have a waste receptor for** ~~**not be required for**~~ emergency showers and eyewash stations.

601.5 **Rehabilitation of piping systems.** Where pressure piping systems are rehabilitated using an epoxy lining system, such lining system shall comply with ASTM F 2831. **These epoxy lining systems shall be installed by OCILB licensed Contractors.**

607.2.1.2 Demand recirculation controls for distribution systems – Deleted in deference to the design and engineering professionals. ~~**A water distribution system having one or more recirculation pumps that pump water from a heated water supply pipe back to the heated water source through a cold water supply pipe shall be a demand recirculation water system. Pumps shall have controls that comply with both of the following:**~~

1. ~~**The control shall start the pump upon receiving a signal from the action of a user of a fixture or appliance, sensing the presence of a user of a fixture, or sensing the flow of hot or tempered water to a fixture fitting or appliance.**~~
2. ~~**The control shall limit the temperature of the water entering the cold water piping to 104°F (40°C).**~~

SECTION 717

REPLACEMENT OF ~~UNDERGROUND~~ BUILDING ~~SEWERS~~ DRAINS BY PIPE-BURSTING METHODS

(Reconstitute this section)

These epoxy lining systems shall be installed by OCILB licensed Contractors. – Do want to add this language as in 601.5 has?

901.3 **Chemical waste vent systems.** The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the outdoors. ~~or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste systems shall be constructed of materials approved in accordance with Section 702.5 and shall be tested for chemical resistance in accordance with ASTM F 1412.~~

1102.4 **Replacement of Building storm** ~~sewer~~ Drains **pipe by Pipe Bursting Methods.** ~~*Deleted.*~~

(Reconstitute this Section)

These epoxy lining systems shall be installed by OCILB licensed Contractors. – Do want to add this language as in 601.5 has?

1202.1 **Nonflammable medical gases.** Nonflammable medical gas systems, inhalation anesthetic systems and vacuum piping systems shall be designed and installed in accordance with NFPA 99 - **15**.

1301.1 **Scope.** ~~*The content of this model code chapter has been deleted.*~~ *On-Site Nonpotable Water Reuse Systems, Nonpotable Rainwater Collection and Distribution Systems, and Reclaimed Water Systems are considered Private Water Systems as defined in Section 3701.344 of the Revised Code. Private water systems and recycled water systems are regulated by the Ohio Department of Health rules found in Chapter 3701-28 of the Administrative Code.*

(Reconstitute this section)

These epoxy lining systems shall be installed by OCILB licensed Contractors. – Do want to add this language as in 601.5 has?