



**Washington Suburban
Sanitary Commission**

**Plumbers & Gasfitters Training
for Transition to the
2015 WSSC Plumbing and Fuel Gas Code**

May 20, 2015



Objectives of the Day

- Present and Discuss the Highlights of Code Changes from the 2012 IPC to the 2015 IPC
- Present and Discuss the Highlights of Code Changes from the 2012 IFGC to the 2015 IFGC
- Present and Discuss All Amendments to the WSSC Plumbing and Fuel Gas Code

Objectives of the Day

(Cont.)

- Consistent Interpretation and Application of Codes
- The Presentation intends to Answer **Most** Questions
- Route follow-up questions through your liaison committee
- Presentation Format:
 - New code items in **green text**
 - Revised code items in **blue text**
 - Words of emphasis and notes to the presenter in **purple**

Plumbers & Gasfitters Code Transition Training (part 1)

Significant Changes
from the
2012 International Plumbing Code (IPC)
to the

2015 International Plumbing Code

All changes accepted unless amended by the
2015 WSSC P&FG Code
(see part 3 of this presentation)

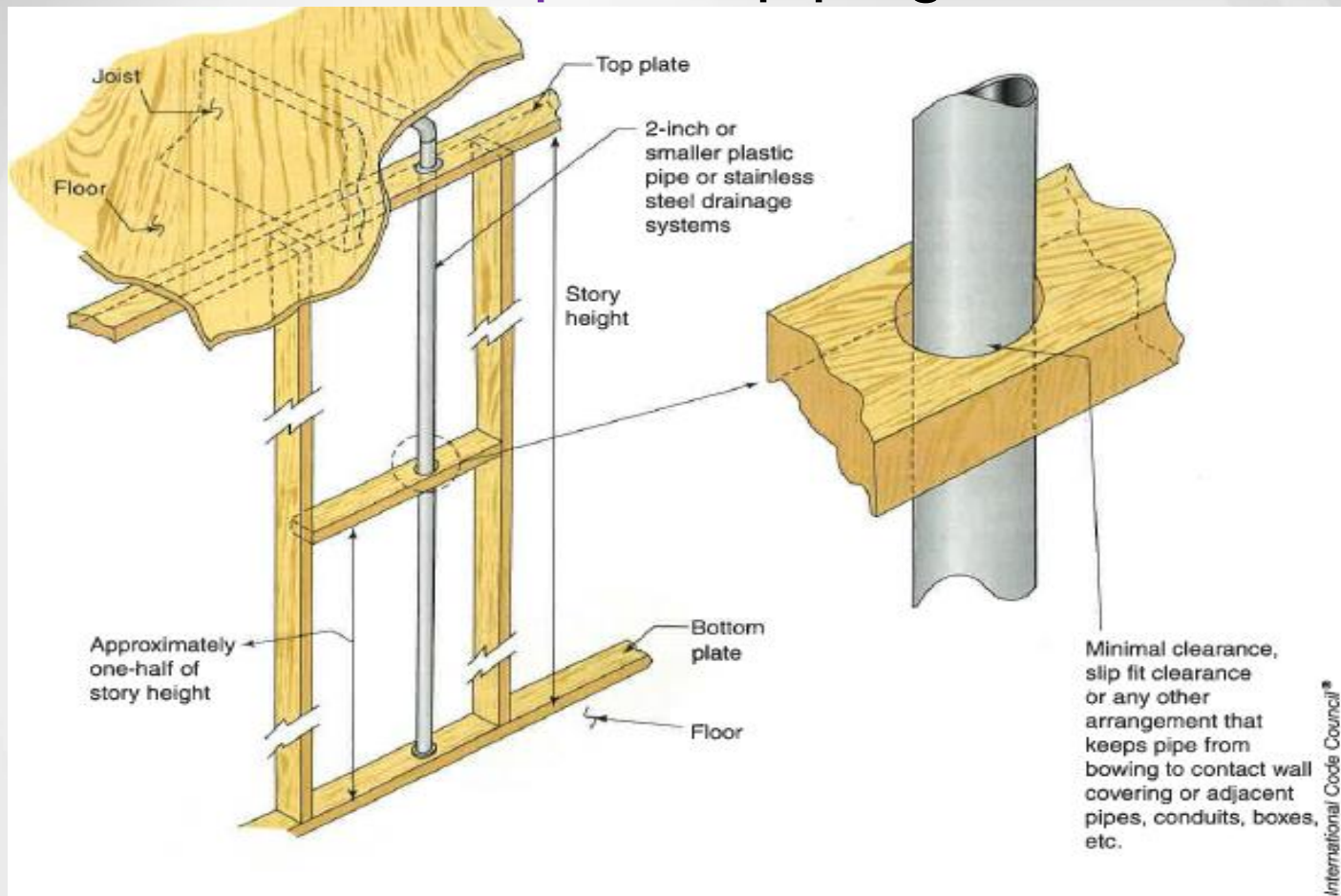


IPC Chapters 1 & 2

- Talk about format of presentation and code books
- Chapter 1 – No Changes, but not applicable anyway
- Chapter 2 – Definitions
 - **Alternate Onsite Nonpotable Water** –Water Re-Use, Ch. 9.
 - **Backflow Preventer** – Assemblies, Devices and Methods.
 - **Mechanical Joint** – Added heat-fused to list that *isn't*.
 - **Toilet Facility** – Room with a least 1 WC and 1 lavatory
 - **Waste Receptor** – New definition, FS, SP, HD, FD
 - **Drinking Fountain, Water Dispenser and Water Cooler**
 - **Fats, Oils & Greases (FOG) Disposal System**

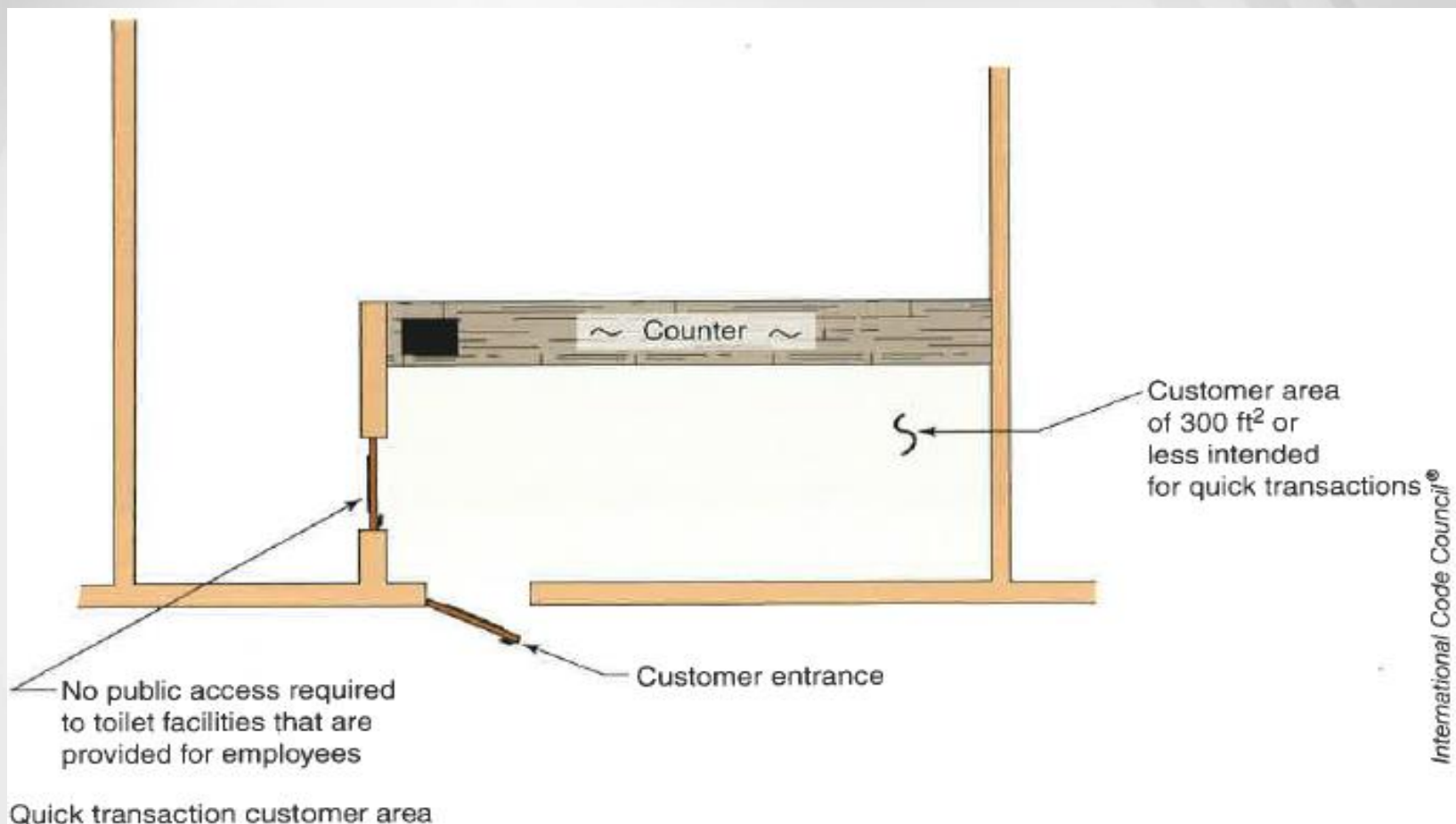
IPC Chapter 3

- **Table 308.5** Mid-Story Pipe Guide – required for small diameter **plastic** piping.



IPC Chapter 4

- 403.3 – Required Public Toilet Facilities - **Exception No. 2** - Not required in a take-out under 300 sq. ft.



IPC Chapter 4

Cont.

- 406.1 & 409.2 - ASME standard added to DW & ACW
- 413.1 - UL 430 added to FWD (disposal v. grinder)
- 420.1 - ASME standard added to WCs for dual flush
- 421.1 - UL 1795 added to whirlpool bathtubs
- 423.3 – New section for footbaths, pedicure baths, and head shampoo sinks - 120°F and ASSE 1070
- 424.8 – Deck-mounted bath/shower transfer valves to meet **harmonized** ASME A112.18.1/CSA B125.1 (*talk here about A112.18.1 & A112.18.3*)

IPC Chapter 5

- **501.3** – Water heater drain valve – $\frac{3}{4}$ " with male garden hose threads
- **504.6** - T&P Relief Discharge Piping – item #10 – revised to mean termination shall not be more than 6 inches **and not less than 2 pipe diameters** above the floor or waste receptor flood rim.
- **504.7.2** – Safe Pan Drain – where a pan drain was not previously installed, a pan drain shall **not required for a replacement** water heater.

IPC Chapter 6

- **601.5** – Rehabilitation of Piping Systems – ASTM F 2831 was added for epoxy lining. *(More to follow in section 3; we have an amendment on this.)*
- **605.2.1** – Lead content of drinking water pipe and fittings. IPC now has 372 standard.
- **Tables 605.3 & 605.4; Section 605.16** – A new CPVC pipe has been added – CPVC/AL/CPVC

IPC Chapter 6

Cont.

- Table 605.5; Sections 605.14.3, 605.14.5, 605.18.3, 605.22.2 & 605.22.3 –
 - Press-connect Joints
 - Grooved and Shouldered Mechanical Joints
- 605.7 & Table 605.7 – Revised section references a new table containing valve standards
- 607.2.1 – Hot Water Temperature Maintenance System Controls - On by demand/flow; auto-off when not in use or supply reaches temperature. Res. = 50'; Comm. = IECC Table C404.5.1



IPC Chapter 6

Cont.

- **607.3** – Hot water – Thermal Expansion Control – now is the **only means to abate** is an expansion tank. Same three items will drive the requirement.
- **607.5** - Insulation – Per the IECC (**residential - no 8' rule on inlet to water heater, not req. to kitchen**)
 1. Piping $\frac{3}{4}$ " or larger (same as 2012)
 2. Serving more than one dwelling unit
 3. Outside of conditioned space
 4. From water heater to manifold
 5. Under floor slab or buried

Commercial - all hot water piping to angle stop.



IPC Chapter 7

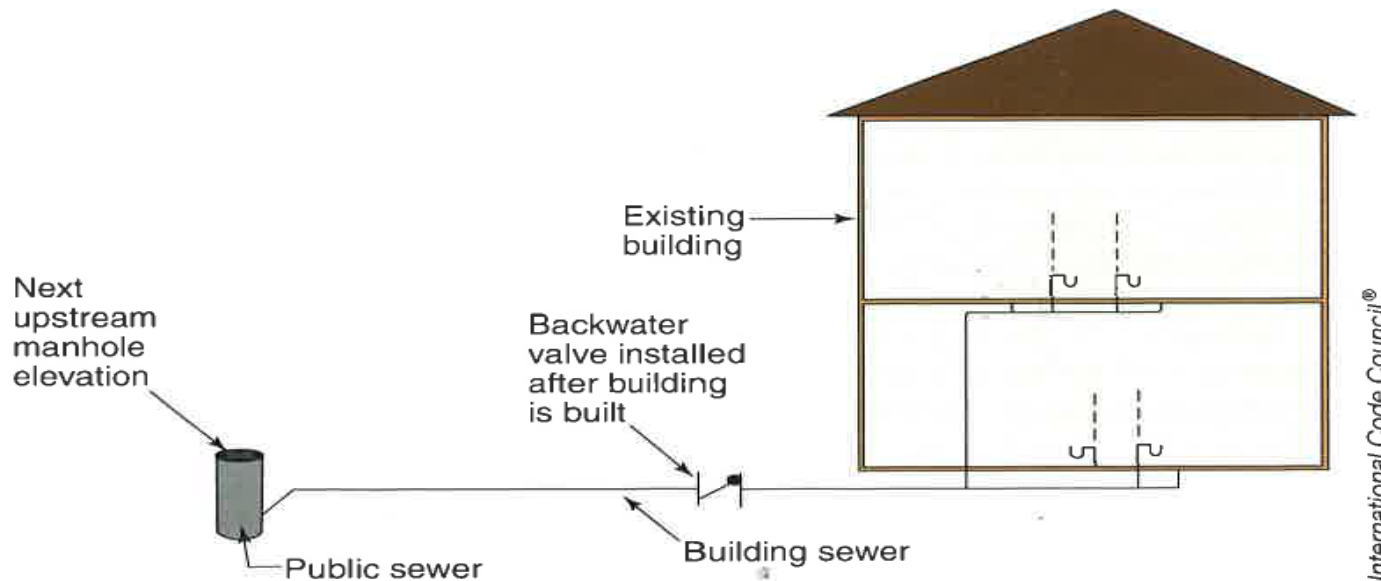
- **702.5** - Temperature Rating – 140°F limit is lifted for local piping. Piping shall be rated for higher temps. E.g. dishwashers, tilt kettles, and sterilizers.
- **705.11.2** – Solvent Cementing – primer is **not required** for up to 4” non-pressure piping when using ASTM D 2564 rated solvent cement. Joint **must be prepared** with steel wool, sanding cloth, cleaner or primer.
- **708** – Clean-outs revamped. Base of stacks - no longer required, must meet requirements for horizontal drains. *(Also see Section 3)*



IPC Chapter 7

Cont.

- **715.1** Backwater Valve language expanded to include an exception. Where added to an **existing building**, all floors may go through the valve. Re-routing the upper floors around the valve is no longer required.



Exception allows this backwater valve arrangement for existing buildings only.

IPC Chapter 7 Cont.

- **716** Vacuum Drainage Systems – moved from the appendices to the main code. **Per memo**, we have approved these systems for years.
- **717** Replacement Sewers by Pipe-Bursting Method – new code language to provide **specific provisions** for this type of restoration:
 - Pre & Post Installation Video Camera Survey
 - Will not be allowed to correct grade/slope issues.

(We have general code language under provision 102.3.10 Alternate Pipe Restoration Methods)

IPC Chapter 8

- 802.1, 802.1.1 & 802.1.8 - A few changes relative to FSE's:
 - Eliminate dwelling units from the provisions
 - Add dishwashing machines and utensil, pots, pans, and dish washing sinks to list **requiring indirect** via **air gap**.
 - Specifically call out for individual compartments to **discharge separately**.
- 802.3 - Waste receptors – minor changes:
 - Hub drains receiving clear water waste and standpipes **do not require** removable strainers or baskets.
 - Not concealed v. ventilated – **see WSSC Visible Ready Access Area**

IPC Chapter 9

- **903.1** Vent terminals must be 7' above roof-top-decks or similar areas of assembly. (old language re: weather protection – new language closer but still leaves questions)
- **903.2** Frost Closure – ***Does not apply*** in this region; we are in the 5°-16° range, not 0° or less.

IPC Chapter 10

- **1002.1** Exception 4. Added new first sentence which allows garage drains to be “untrapped” if routed to the storm sewer. (talk here about floor drains in adjacent rooms)
- **1002.4 & 1002.4.1** Trap Seal and Trap Seal Protection – Broke-out primers to two separate sections and added a third to codify Barrier Type Trap Seal Protection Devices (ASSE 1072).
- **1003.3.6** – Grease Interceptors - This section does not apply, WSSC amendments for FOG (302.10/1003), are still valid.

IPC Chapter 10

- 1003.6 Clothes Washer Discharge Interceptor –
(see section 3 for WSSC amendment)

Chapter 13 was revised and a new 14 added –

Do not use in lieu of WSSC's Chapter 9.

Plumbers & Gasfitters Code Transition Training (part 2)

Significant Changes
from the
2012 International Fuel Gas Code (IFGC)
to the

2015 International Fuel Gas Code

All changes accepted unless amended by the
2015 WSSC P&FG Code
(see part 3 of this presentation)

IFGC Chapter 1 & 2

- Chapter 1 – No Changes, but not applicable anyway:
 - except 101.2.4 Systems, Appliances, & Equipment outside of the Scope. (see section 3)
- Chapter 2 – Definitions – No Changes

IFGC Chapter 3

- **307.6** Condensate Pumps – concealed areas – interlock required. (General Note: installation falls under the jurisdiction of the County Mechanical Inspector – however on retrofits – if WSSC sees a glaring problem, we will note it and inform homeowner)
- **310.1.1** CSST Bonding – WSSC's Amendment is still relevant.

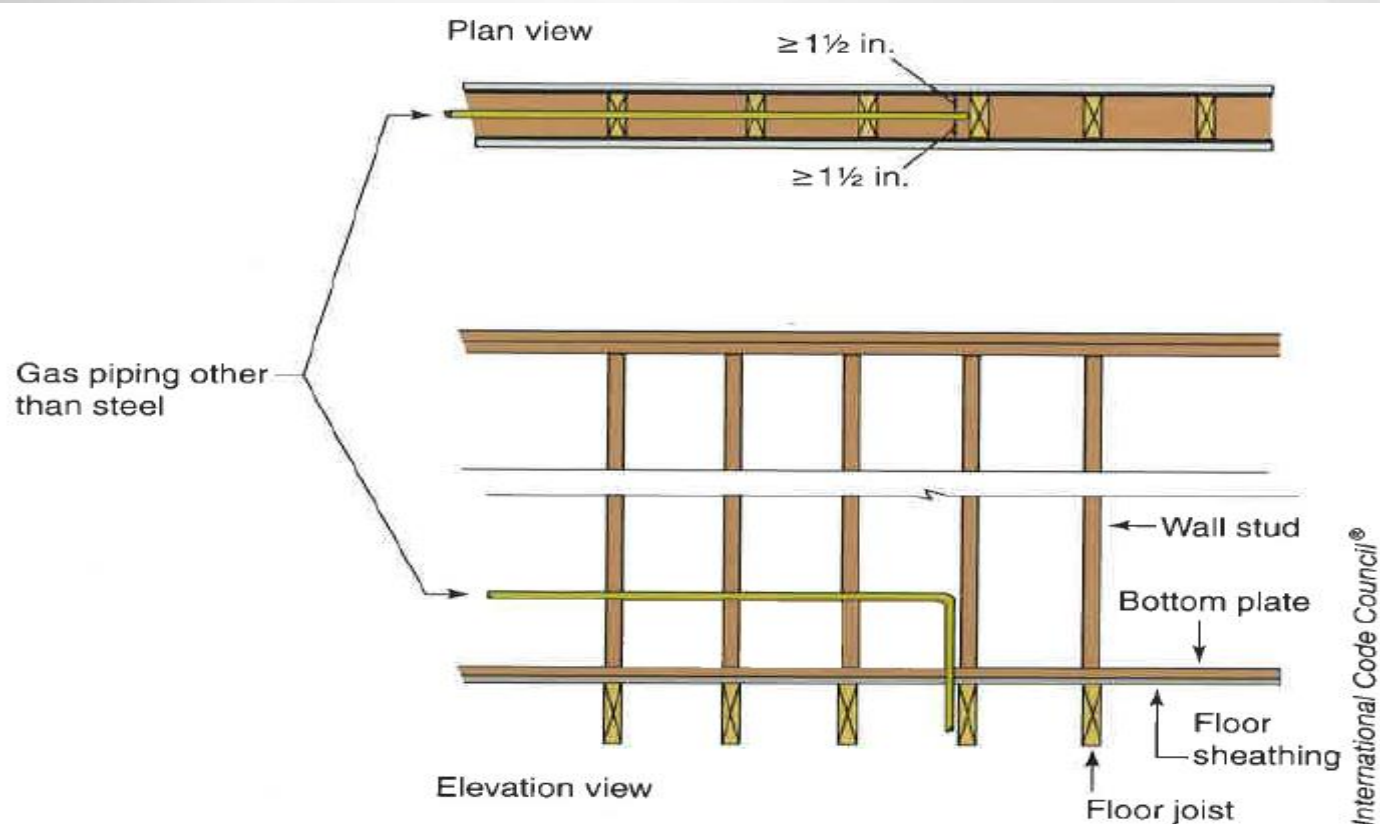
IFGC Chapter 4

- 402.2 Maximum Gas Demand – reworded, no change.
- 403.6 Added a prohibition in text – PVC and CPVC shall not be used to supply fuel gas. (Of course not; they are not included in the approved material tables anyway.)
- 403.10.4(9) Field pipe tapping – outdoors and only by the gas company.
- 404.5 Concealed fittings – reworded, no change. (talk about LC-1 and LC-4)

IFGC Chapter 4

Cont.

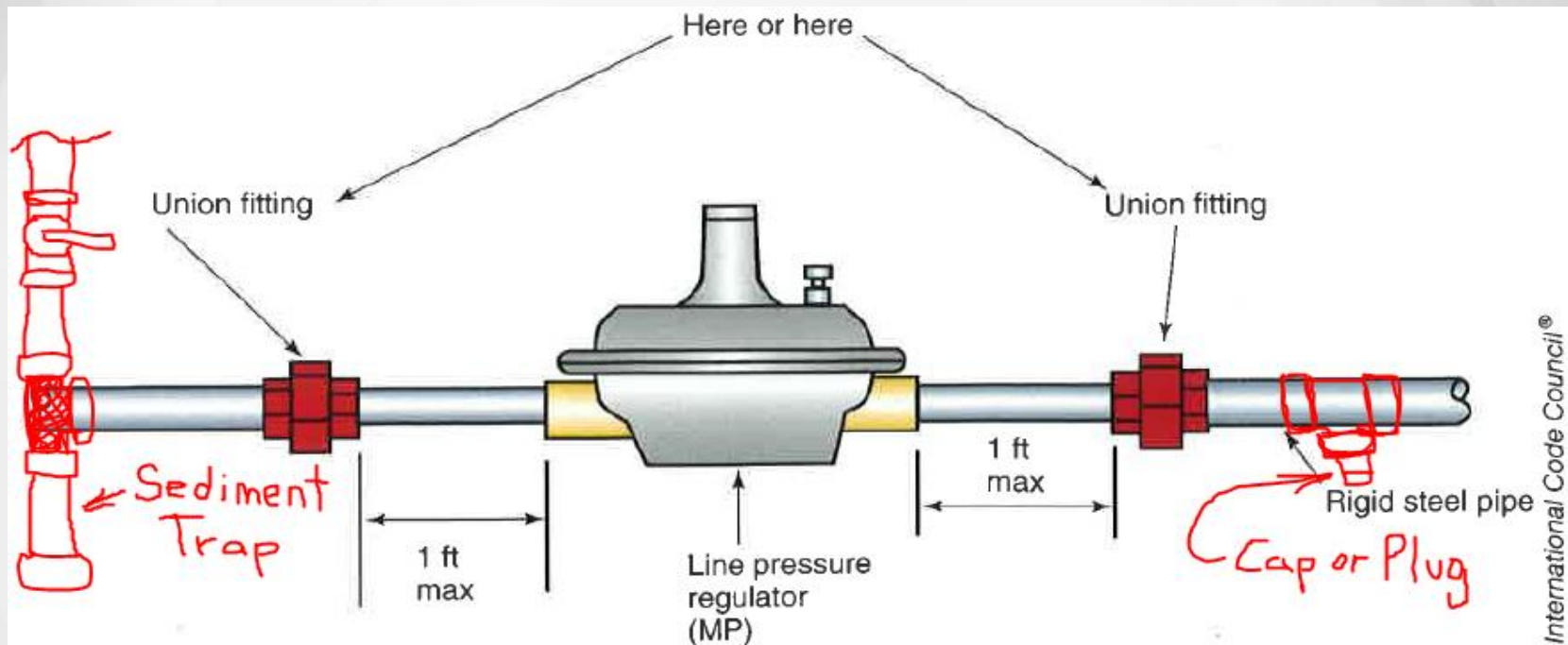
- 404.7 Protection of concealed piping – wording expanded to cover parallel applications.



Concealed gas piping with minimum clearance of 1½ inches does not require protection.

IFGC Chapter 4 Cont.

- 410.2 (7) MP Regulators – provision added to require a union within 1' upstream or downstream of regulator.



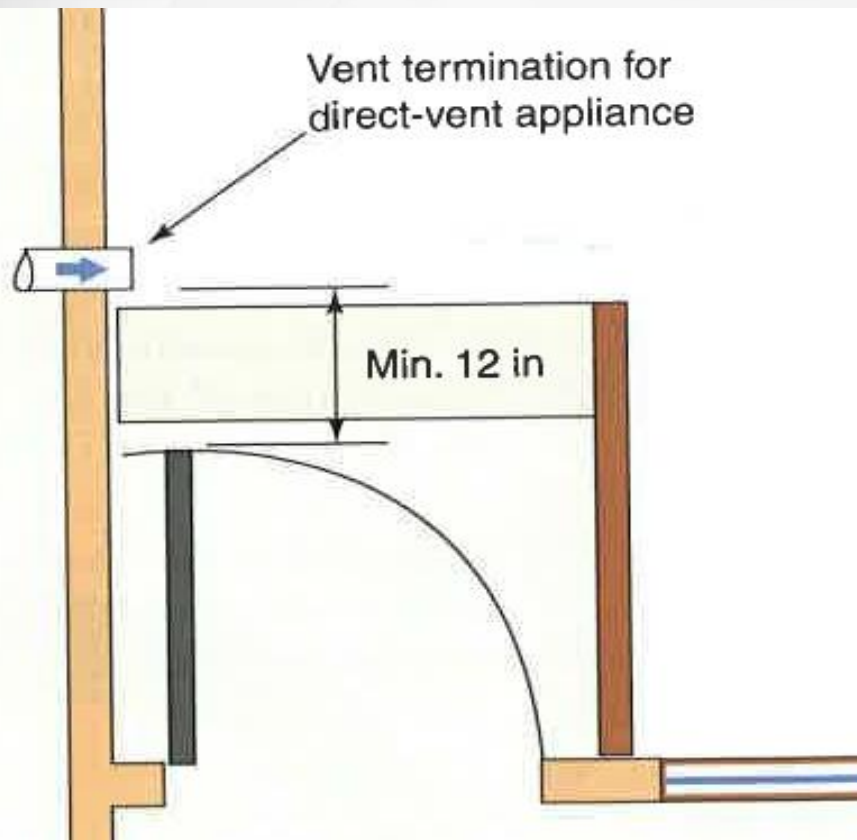
At least one union, installed upstream or downstream, is required for an MP regulator connected to rigid piping.

IFGC Chapter 4 Cont.

- **411.1 (8)** Connecting Portable Outdoor Appliances - added listed hose – ANSI Z21.54.
- **411.1.1** Commercial Cooking Appliances – added restraining device for movable equipment.

IFGC Chapter 5

- 502.7.1 Door Swing – requires vent terminals to be located at least 12” away from a door swing.



This direct-vent terminal is subject to damage from a swinging door.

IFGC Chapter 5 Cont.

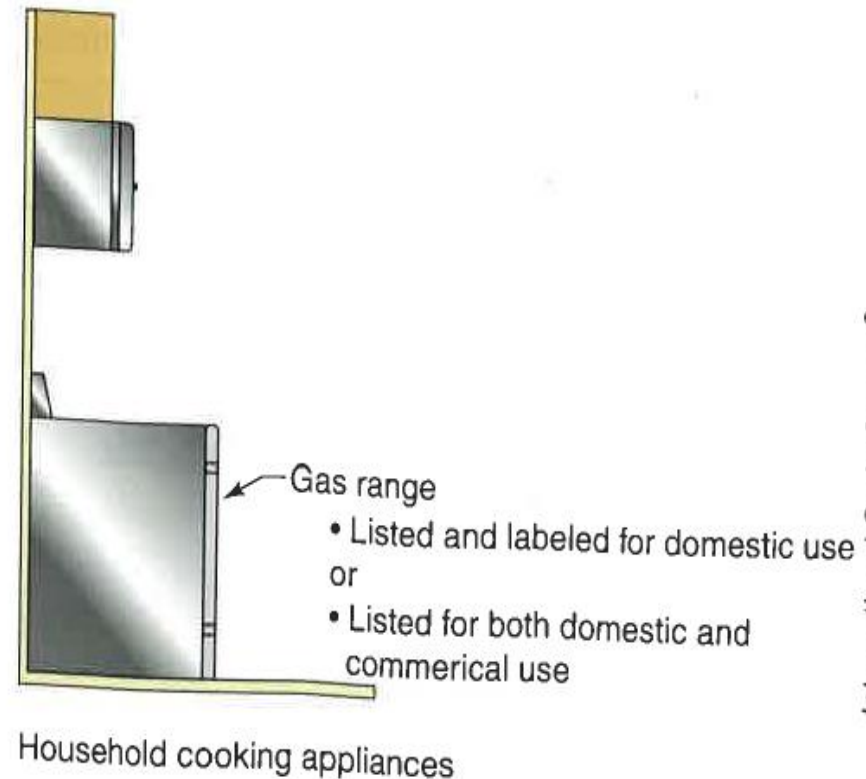
- **503.4.1** Plastic Piping – revised section says that **specific plastic piping material** shall be included in the manufacturer's installation instructions.
- **503.8 (5)** Venting System Termination Location – 10' from an opening in an **adjacent** wall unless 2' above or 25' below operable openings.

IFGC Chapter 6 Cont.

- 623.2 Prohibited location of commercial cooking appliances – exception was added to recognize dual listed appliances.



Range for domestic use



Plumbers & Gasfitters Code Transition Training (part 3)

WSSC Amendments to the:
2015 International Plumbing Code (IPC)
2015 International Fuel Gas Code (IFGC)
2013 WSSC Plumbing and Fuel Gas Code

Final Result:

2015 WSSC Plumbing and Fuel Gas Code

WSSC Chapter 1

- **101.4.2** Removal of item from list of exceptions. Meaning we **now will regulate** temporary LP/propane piping and appliances.
- **102.2** Limits of the “grandfather” clause.
- **102.3.10.2** Epoxy lining – added language to govern products with **different temperature exposure limits**.
 - Containment BFP(s) before work begins
 - 1017 mixing valve
 - Signage

WSSC Chapter 1

Cont.

- 106 Permits
 - 106.1.2 When ePermitting launches – all applications shall be electronic
 - 106.2.5 Exception for Gas company work reworded, no changes.
 - 106.7.5.2 Refund fee

WSSC Chapter 1

Cont.

- 111.1 Service Connections – reworded to raise the main requirement out of the exceptions and codify longstanding practice regarding covenants.
- 113 Licensing
 - Single-out section for non-principal licensees
 - Up the liability coverage amount to \$1M
 - Remove minimum criteria for apprentices
 - Expiration of reciprocals to trail one month behind LoO
 - Display and advertisement to match State requirements
 - Require updated contact information and bad contact fee

WSSC Chapter 2

- **Definitions.** Several new definitions to coincide with new code language; mostly all related to FOG.

WSSC Chapter 3

- **302.4.1/IPC 405.3.6** Front Rim Elevation – establishes a **maximum height** for food service sinks and other specialty sinks not covered by ADA.
- **302.4.2/IPC 410.4** Drinking Fountain Substitution - *Water Dispenser* **anywhere** a DF is **required**.
- **302.5.2/IPC 501.9** Water Heater Sizing – a new chart was added as a **guideline**, only a guideline.

WSSC Chapter 3

Cont.

- 302.6.3/IPC 603.3 & 603.4 Water Service Routing and Restraint.
 - Shall turn vertical within 5' of entering the building (NFPA)
 - Through wall applications require an engineered design
 - If restraining the vertical 90° with strapping, rods, retaining glands or other proprietary means = engineered design
 - Use Standard Detail B/1.0 – orient the block horizontally.
 - The final vertical spool piece shall be restrained, unless part of an engineered plan. Use ¾" rods up to and including 6" and 7/8" rods for 8" – 12".

WSSC Chapter 3

Cont.

- **302.6.5/IPC 604.7.1 & 604.8.3 Responsibility for Booster Pumps and Pressure Reducing Valves.**
 - WSSC performs basic hydraulic design on mainline water and sewer plans. Typically indicates **elevations** at which boosters and PRV's may be needed.
 - Plumbing Code **no longer specifies** a minimum static pressure.
 - Even with modern GIS mapping, WSSC cannot determine the elevation of a given lot at the time a plumbing permit is sold.
 - Staff should continue to **be diligent** and observant of unsatisfactory conditions.
 - Look up water and sewer plans **when starting** a new subdivision.
 - Remind plumber of new code language, which pins some **responsibility/liability on them.**

WSSC Chapter 3

Cont.

- **302.7.1/IPC 703.7** Tracer Wire for Building Sewers
 - Insulated, solid, copper tracer wire, **10 awg** minimum
 - Install within 12” of sewer from 1st building sewer cleanout to PLCO or face of septic tank.
 - For pressure sewer, from building wall or pump housing to property line valve box.
 - Secure terminal end of wire with cleanout access cover.
 - Where flush, leave wire exposed between pipe and access assembly (lamp hole).
 - For pressure sewer, wrap twice outside of valve box and tuck inside tightly fastened cover.

WSSC Chapter 3

Cont.

- **302.6.3/IPC 603.3** Tracer Wire for Water Services
 - Insulated, solid, copper tracer wire, **10 awg** minimum
 - Install within 12” of water from building wall to PL/RoW or well casing.
 - Secure terminal end of wire with cleanout access cover.
 - Where flush, leave wire exposed between pipe and access assembly (lamp hole).
 - Separate trenches with curb valve, wrap twice outside of valve box and tuck inside tightly fastened cover.
 - Separate trenches with outside meter, install a terminal stake within 2’ of wall over water entry point.

WSSC Chapter 3

Cont.

- **302.7.2/IPC 708.1.1** Cleanout Equivalent –
 - re-establishing an unwritten practice
 - Allows fixture or trap removal to introduce snake
- **302.7.4/IPC 708.3.1** Requires **all** building sewer cleanouts to be installed **outside**.
 - Way overdue
 - Goes well with Tracer Wire requirement.

WSSC Chapter 3

Cont.

- **302.10/IPC 1003** Several Modifications to FOG Related Code Provisions:
 - **1003.2.1** – Add more descriptions of items requiring abatement
 - **1003.2.1.1** – Limits “produce only” sinks to designated areas
 - **1003.3.3.1** – Add to considerations for conditional variances
 - **1003.3.2** – Add another reason to revoke said variance
 - **1003.5.1.3** - Limits on Flow Based Grease Interceptors:
 - Only one per food service establishment (FSE)
 - FSE limited to four (4) connected fixtures, equipment or drains
 - FSE limited to four (4) cooking appliances
 - **1003.5.2.2** – Improve access requirements, for user and inspector
 - **1003.5.2.6** – Tampering with a flow control device or a reduced tail piece is an enforceable violation.

WSSC Chapter 3

Cont.

302.10/IPC 1003 Continued:

- **1003.5.3.6** – Sets a minimum of 25 gpm for FBGI serving a 3CS
- **1003.5.3.1** – removes weak IPC sizing and inserts a **new table** for directly connected fixtures.
- **1003.5.3.2** – Placing a reduced tail piece on a D/W violates its listing. Added note to table: use published or calculated flow rate.
- **1003.6.2.7** – Access to Volume Based Grease Interceptors:
 - Frame and cover dimensions – WSSC Standard
 - Access = 24” diameter up to 26” of burial depth
 - Access = 30” diameter from 27” to 60” (36” diameter preferred)
 - Access = 36” diameter - greater than 60” (48” diameter preferred)
- **1003.6.2.8** – VBGI installed above grade shall meet special conditions

WSSC Chapter 3

Cont.

- 302.10/IPC 1003 Continued:
- **1003.9** – New language mirrors the IPC - replaces old 1003.9
- However, amendment re: increase number ACWs requiring a solids interceptor from 1 to 3.

WSSC Chapter 4

- **402.5/IFGC** – Make-up, Ventilation and Combustion Air for Construction Heaters:
 - Recirculating Type – 3 square feet for every 100,000 Btuh
 - One half of the effective opening within 12” of the top of the enclosure
 - One half of the effective opening within 12” of the bottom of the enclosure
 - Openings shall be in **separate areas** of the structure
 - Openings as high and low **as practical**
 - Non-Recirculating Type – 1.5 square feet / 100,000 Btuh
 - One or more openings
 - All required openings within 12” of the top of the enclosure
 - Or as close **as practical**

WSSC Chapter 4

Cont.

- **402.5/IFGC 503.5.5** Size of Chimneys – Delete Methods 2 & 3
- **402.5/IFGC 503.5.6** Inspection of Chimneys – Delete the Exception
- **402.5/IFGC 504.2.9** Amend language and table references to combine use of exterior chimney tables to include interior and exterior chimney sizing
 - 3. add “factory” to equipped, add “without a damper or draft inducer (fan assist)
 - 6. strike “space heating” in favor of “any”

WSSC Chapter 4

Cont.

- **402.5/IFGC 504.3.20** - Amend language and table references to combine use of exterior chimney tables to include interior and exterior chimney sizing
 - 2. add “factory” to equipped, add “no appliance with a damper or draft inducer (fan assist)”
 - 4. add “total” before input rating and strike “each space heating”
- **402.5/IFGC Tables 504.2.6, 504.3.(6a, 6b, 7a & 7b)**
Change titles to read **Interior and Exterior Masonry Chimneys**

WSSC Chapter 4

Cont.

- 402.5/IFGC Tables 504.2.6, 504.3.(6b, & 7b) – Delete “ space heating” reference from table headings.

WSSC Chapter 5

- **504.3.1** Preservation of Backflow Assembly Identification Information (make, model & serial no.):
 - Where certain atmospheres are detrimental to the manufacturer's ID plate, the information shall be preserved in a supplementary form:
 - Engrave on inert material such as plastic.
 - Print or type and seal in a durable, transparent bag.
 - Secure either method to the assembly.
- **505/Table 5.1** Add two uses to our selection table.
 - ASSE 1024 – Model trimmer
 - ASSE 1056 – Pet Grooming/Treatment station/tub/shower

WSSC Chapters 6

- 602.1 Emerging Meter Technology – removes silent prohibition
- 602.2.1 Outside Meter Rule for Single Family Homes:
 - Required where water service is 300 feet or greater.
 - Required in neighborhoods which are predominantly outside meters.
 - Allowed, when requested by the property owner.

WSSC Chapter 7

- Chapter 7 is deleted and left blank intentionally.
- DSG has a new “code” going into effect July 1.
 - Site Utility Design (standard and minor) will fall under this code.

WSSC Chapter 8

- Many editorial changes to Chapter 8
- Align with language in federal regulations
- Some updates to 818 – FOG enforcement regs.

Transition – Guidelines for Consistency

- Effective Date is July 1, 2015
- Longform Permit Issuance Date is generally the delineation for applying new code requirements
- Exception – Large Scale projects which have made significant progress through plans review – will be allowed under “old” code and so noted on the plan. (However, significant health or safety related code issues will not be ignored)

Transition – Guidelines for Consistency

Cont.

- Short Form Permits as follows:
 - All work scheduled within 10 business days (per code) and permit purchase **must pre-date** installation date.
- Where Inspection Occurs July 1 or later:
 - To qualify under “old” code requirements:
 - Confirm the installation date pre-dated July 1.
 - Where install is after July 1, honor contract if signed in **June**
- Expired SF Permits (greater than 4 months) – refer to Ed James

Transition – Guidelines for Consistency

Cont.

- WSSC eCode Books will likely be posted on our web pages, the week of May 18 – 22.
- Printed WSSC Code books will likely be available the week of June 1 – 5.
- Code Consistency Guideline will likely be available the week of May 25 – 29.
- The trade exams will likely be converted to the new codes on Sept 1.