



County Technical Assistance Service
INSTITUTE *for* PUBLIC SERVICE

December 21, 2024

Plumbing Inspector

Dear Reader:

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We hope this information will be useful to you; reference to it will assist you with many of the questions that will arise in your tenure with county government. However, the *Tennessee Code Annotated* and other relevant laws or regulations should always be consulted before any action is taken based upon the contents of this document.

Please feel free to contact us if you have questions or comments regarding this information or any other CTAS website material.

Sincerely,

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Plumbing Inspector

Private Acts of 1931 Chapter 560

SECTION 1. That all plumbing work done outside the corporate limits of any city or town, which provides for the inspection of plumbing in counties having a population of not less than 300,000 nor more than 350,000 inhabitants, according to the Federal Census of 1930, or any subsequent Federal Census, shall be under the control of the Board of County Commissioners and the Plumbing Inspector, hereinafter provided for whenever such Plumbing Inspector shall be appointed by the Board of County Commissioners. Any appeal from the decision of the Plumbing Inspector shall be filed in writing, showing the ground of complaint with the Board of County Commissioners, who shall set a time to hear the same, and give all parties concerned an opportunity to present their contentions before rendering their decision.

SECTION 2. That the Plumbing Inspector shall be a practical plumber, or a sanitary engineer, and shall be appointed by the Board of County Commissioners whenever, in the judgement of the Board of County Commissioners, the appointment of such Plumbing Inspector shall be deemed necessary or advisable.

The salary of said Inspector shall be fixed and paid by the Board of County Commissioners. He shall be under the jurisdiction of the Board of County Commissioners and subject to their control and shall hold office during the pleasure of said Board of County Commissioners.

SECTION 3. That the Plumbing Inspector shall have the right to enter upon any premises containing plumbing or drains at all reasonable hours, while said building in which said plumbing is being installed, is being constructed; or where said plumbing and drainage is being installed to ascertain that the provisions of this Act are complied with, and said Plumbing Inspector is hereby empowered to examine and inspect all such plumbing. He is also empowered to examine and inspect all plumbing within such counties outside the corporate limits of any city or town providing plumbing inspection, and whenever said plumbing shall be found insanitary as set out within the provisions of this Act; he shall condemn the same by and with the approval of the Board of County Commissioners of such county; and the owner, agent, or lessee, of such building shall put the same in proper sanitary condition consistent with, and as set out in this Act as sanitary plumbing, after written notice from the Inspector, and provided that the inspector shall not have the right to enter upon any premises where plumbing has already been installed at the time of the passage of this Act.

The Inspector shall be notified when work is ready for inspection and tests; and must examine and approve or reject all work within sixteen (16) working hours from the time of such notification. All work shall be left uncovered for examination after the test is made and the work is approved by the Inspector and for a period of not longer, however, than the sixteen working hours aforesaid.

SECTION 4. That changes or modifications in approved plans will not be permitted unless authorized by the Inspector. No permit will be issued to any person, firm or corporation, until the plumber or person doing the work shall have made written application for said permit to the Plumbing Inspector. All permits must be taken out before the work is started. Forms of application and permits shall be prepared by the Board of County Commissioners; a permanent record of such shall be kept in the office of the Board of County Commissioners, where the said Plumbing Inspector shall maintain his headquarters.

SECTION 5. That this Act shall apply to all plumbing work in said counties, outside of cities or towns maintaining plumbing inspection, except minor repairs, which shall be construed to mean the repairing of leaks, pipes and traps, forcing out waste or drain pipes, and repairing broken fixtures, but such repairs and alterations shall not be construed to include cases where new vertical or horizontal lines of soil, waste, vent or rain water pipes are proposed to be used, provided that in a building condemned by the Plumbing Inspector because of unsanitary conditions no plumbing shall be considered as coming under this head of repairs, but all such plumbing shall be done in the case of new buildings, insofar as specifications are concerned.

SECTION 6. That any Sanitary Inspector, County Health Office, or Plumbing Inspector of said counties, is authorized to take up and return to the office of the Plumbing Inspector all permits found in the possession of persons or firms other than those to whom said permits were issued; and it shall be the duty of said Inspector to report the same to the Board of County Commissioners.

SECTION 7. That all plumbing fixtures shall be installed as open plumbing until inspected. Every dwelling house, hotel, apartment house, tenement or business house, factory, store or other building in which plumbing arrangements are to be placed shall be connected to a sewer or septic tank. The plumbing and ventilation of every building shall be separate and independent from the roof to the outside of the foundation walls; provided that private stables may be connected with the house drain. That portion of the

house drain which is inside the building and underneath the building and three feet outside of the area of the foundation wall, shall be constructed of what is known in commerce as standard cast-iron pipe and fittings, where stack does not exceed fifty feet in height; where the stack does exceed fifty feet in height, all pipes and fittings shall be extra heavy cast-iron, or galvanized wrought-iron pipe with standard recess fittings. Cast-iron pipe and fittings shall be coated outside and inside with coal tar, varnish or any coating equally as good. Paraffin, rosin, coal tar, putty, gas fitters, or cement will not be allowed in making joints or in covering defects. All pipe must be free from sand hoes, cracks or other defects. All defective pipes, fittings and fixtures shall be removed, and all defective work shall be made good so as to conform with the provisions of this Act. Horizontal cast-iron pipes must be supported every five feet by suitable hangers or piers. No hangers of wood or wire will be allowed, and wrought-iron pipes shall be supported every ten feet with hangers. All vertical pipes must be securely tied or anchored at least every two floors by suitable pipe rests. Double hub or double hub lengths will be prohibited on waste line. Saddles or bands will be allowed on soil or vent pipes, subject to the approval of the inspector. There shall be a cleanout at the foot of all stacks and at all angles near the exits of drains from buildings; also every thirty feet in horizontal lines and all placed in accessible location. Drains and soil pipes shall have a uniform fall of not less than one-quarter (¼) of an inch per foot towards the sewer or septic tank. When such grades cannot be obtained a special permit may be obtained from the Plumbing Inspector for a less fall per foot.

SECTION 8. That septic tanks and disposal systems shall be constructed in accordance with the plans and specifications furnished by the Plumbing Inspector and approved by the Board of County Commissioners, and no system will be allowed to be used until it has been inspected and approved by the Plumbing Inspector. Septic tanks shall be constructed of concrete, brick, or other approved clay products. The minimum working capacity of any tank shall be 450 gallons and the working depth shall be a minimum of four (4) feet. The length of the tank shall be at least one and one-half (1½) times the width in all cases. Inlet and outlet pipes shall be trapped with a quarter bend or long sweep ell, the same size as the outlet and inlet sewers, and traps shall extend not less than 8 inches nor more than 12 inches below the flow line of the tank. All tanks, either of minimum size or larger, shall be constructed so as to provide the minimum capacities specified in the table and to conform with the other requirements of the table or their equivalent, the latter at the discretion of the Plumbing Inspector.

TABLE NO. 1.
"Minimum Sizes for Septic Tanks"

	Number of Per- sons	Length Inside	Width Inside	Total Working Depth Inside	Air Space	Gallons Capacity
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	In.	
1-6 Inc.	5-0	3-0	5-0	4-0	12	450
7-8 Inc.	6-0	3-0	5-0	4-0	12	540
9-10 inc.	7-0	3-0	5-0	4-0	12	630
11-12 Inc.	7-6	3-6	5-0	4-0	12	790
13-15 Inc.	8-0	3-6	5-0	4-0	12	840

Tanks to serve more than fifteen persons shall be constructed in accordance with plans approved by the Board of County Commissioners. Underground disposal systems of the type using farm drain tile shall be constructed in accordance with the minimum lengths specified in the table:

No. of Persons	Length of Disposal System
1-6 Inclusive	250 Feet
7-8 Inclusive	350 Feet
9-10 Inclusive	500 Feet
11-12 Inclusive	600 Feet
13-15 Inclusive	750 Feet

Method of construction shall be specified by the Plumbing Inspector and approved by the Board of County Commissioners. Where construction of the type of disposal system using farm drain tile is not practical or where more than fifteen persons are served, the disposal system shall be constructed in accordance with plans approved by the Board of County Commissioners. All septic tanks and disposal systems must be built by the plumber or person doing the work, to whom the permit is issued.

SECTION 9. That all drains shall be run as direct as practicable and changes in directions shall be made with regular fittings and connections shall be made with Y's, sanitary T's and one-eighth bends. Soil pipes receiving the discharge of one or more closets shall be standard cast-iron soil pipe, the same as specified for drains, and not less than four inches in internal diameter, and continuing undiminished in size through roof or building and not terminating in front of any window or opening and left open at the top, flashing of

sheet lead or of sheet copper not less than four pounds or of galvanized iron shall be provided and properly attached where pipes pass through the roof. For two or more water closets a modified circuit or loop vent may be used, where closets are not more than fifty feet from soil pipe stacks that extends undiminished in size through the roof. The circuit or loop vent system may be used on other fixtures than closets when a half S trap shall be used, the crown of the trap to be not more than eighteen inches from the waste fitting, the vent to be continued undiminished in size to roof or main vent stack. Traps and back vents shall be continuous where possible. Where the vent or back vent pipes are continuous and the traps are ventilated through the waste fitting the crown of the trap shall be not more than two feet from the waste fittings; provided that in buildings where two or more closets are used a two-inch vent or back vent pipe may be used when the said water closets are not more than fifteen feet from a soil pipe stack of four inches or more than extends undiminished in size through the roof. In no case will one fixture be allowed above the other unless the lower fixture is revented. Lead waste and vent pipes shall not be less weight than the grade known as extra light. Waste pipes shall not be less than one and one-half (1½) inches in diameter except lavatories, which may be one and one-quarter (1¼) inches. The required size of a soil or waste stack shall be determined from the distribution and total of fixture units connected to the stack and in accordance with Table No. 2, except that in water closets, which shall discharge into a stack not less than four inches in diameter.

The following table based on the discharges of a lavatory as a unit shall be employed to determine fixture equivalents.

		Fixture Units
1	lavatory or wash basin	1
1	kitchen sink	1 1/2
1	bathtub	2
1	laundry tray	3
1	combination fixture	3
1	urinal	3
1	shower bath	3
1	floor drain	3
1	slop sink	4
1	water closet	6

TABLE NO. 2
"Maximum Fixture Units on One Stack"
With "Sanitary T" In-lets With all 450 Y or "Combination Y and One-eighth Bend" In-lets

Diameter (ins.)	"Sanitary T" In-lets		"Combination Y and One-eighth Bend" In-lets		Maximum Length including Extension as vent
	In 1 branch Interval	On Any 1 stack	In 1 branch Interval	On any extension 1 stack as vent	
1 1/4	1	1	1	1	50
1 1/2	2	8	4	12	65
2	9	16	15	36	85
3	24	48	45	72	212
4	144	256	240	384	300
5	324	680	540	1,020	390
6	672	1,380	1,122	2,070	510
8	2,088	3,600	3,480	5,400	750

1. The term "branch interval" shall be interpreted to mean a vertical length of stack, not less than 8 feet, within which a branch or branches are connected, and the total fixture units on all branches connected to a stack within any 8-foot length shall not exceed the maximum permitted by the table in one "branch interval."

SECTION 10. That every water closet shall be provided with water from tank or cistern or flushometer and the flush pipe shall be not less than one and one-quarter (1¼) inches in diameter. No plunger, pan or hopper closet shall be used in any building, and when such closets are removed for repairs or other causes they shall not be replaced; provided, that hopper closets may be used for yard closets when trap is placed under floor to prevent freezing.

SECTION 11. That every sink, bath tub, water closet, urinal, wash tray or set of wash trays and every fixture shall be separately and independently trapped with an approved water sealing trap placed as near

the fixture as practicable. The use of anti-syphon traps will not be allowed except by special permission from the inspector, who will specify the style of trap to be used. No trap shall be placed at the foot of a vertical soil or waste pipe, but traps shall be placed at the foot of all rain water leaders. Rain water leaders, when within a building shall be galvanized wrought iron, standard or extra heavy cast-iron pipe, and, when connected with drain, waste, or soil pipe, must be tested the same as soil pipe.

SECTION 12. That all vent pipes shall extend at least two feet above the fixture served before connecting with the other vent or soil pipe. Vent pipes shall be run as straight as practicable with a grade to avoid trapping and condensation, but in all cases where a vent pipe connects to a soil pipe such connection shall be not less than two feet above the highest fixture. Vent pipes may be run out separately through the roof and flushed the same as soil pipes. The required size of main vents or vent stacks shall be determined from the size of the soil or waste stack vented, the total number of fixtures drained into it and the developed length of vent in accordance with Table No. 3.

TABLE NO. 3
"Maximum Permissible Length of Vents (in feet) For Soil and Waste Stacks"

Diameters of Soil or Waste Stack (inches)	Number of Fixtures Units	Diameter of Vent in inches							
		1 1/4	1 1/2	2	2 1/2	3	4	5	6
1 1/4	1	45	--	--	--	--	--	--	--
1 1/2	Up to 8	35	60	--	--	--	--	--	--
2	Up to 18	30	50	90	--	--	--	--	--
2 1/2	Up to 36	45	45	75	105	--	--	--	--
3	12	--	34	120	180	212	--	--	--
3	18	--	18	70	180	212	--	--	--
3	24	--	12	50	130	212	--	--	--
3	36	--	8	35	93	212	--	--	--
3	48	--	7	32	80	212	--	--	--
3	72	--	6	25	65	212	--	--	--
4	24	--	--	25	110	200	300	340	--
4	48	--	--	16	65	115	300	340	--
4	96	--	--	12	45	84	300	340	--
4	144	--	--	9	36	72	300	340	--
4	192	--	--	8	3	64	282	340	--
4	264	--	--	7	20	56	245	340	--
4	384	--	--	5	18	47	206	340	--
5	72	--	--	--	40	65	250	390	440
5	144	--	--	--	30	47	180	390	440
5	288	--	--	--	20	32	124	390	440
5	432	--	--	--	16	24	94	320	440
5	720	--	--	--	10	16	70	225	440
5	1020	--	--	--	8	12	58	180	440
6	144	--	--	--	--	27	108	340	510
6	288	--	--	--	--	15	70	220	510
6	576	--	--	--	--	10	43	150	425
6	864	--	--	--	--	7	33	125	320
6	1296	--	--	--	--	6	25	92	240
6	2070	--	--	--	--	4	21	75	168

SECTION 13. That the whole system of drain, waste, soil and vent pipes shall be made tight and tested with water. This test shall be made by closing the end of the house drain and all other fixture outlets and filling the entire system with water to the opening on the roof. If the system is tested in sections, the test shall be applied by plugging all the openings except the opening at the top of the section, and each section shall be filled with water. No section shall be tested with less than a 10-foot head of water. This test shall be made by the plumber in the presence of the inspector. All defective pipes or fittings shall be removed and all defective work made good so as to conform to the provisions of this Act.

SECTION 14. That no person shall cover or cause to be covered any house sewer or other connection with a sewer, or septic tank, without due inspection and approval of the same by the Plumbing Inspector.

SECTION 15. That all persons whose property is served by a septic tank or plumbing improperly installed and constituting a nuisance, shall upon notice in writing from the Plumbing Inspector make proper and permanent provision for the correction of said condition and the abatement of said nuisance within fifteen (15) days, such correction to be done under the provisions of this Act.

SECTION 16. That the Board of County Commissioners shall be and is hereby authorized to provide a scale of fees to be paid by property owners for services of the Plumbing Inspector, such scale to be reasonably sufficient to cover the cost of services rendered; but all fees shall belong to the county.

SECTION 17. That any person violating any provisions of this Act shall be deemed guilty of a misdemeanor and be subject to a fine of not less than Five (\$5.00) Dollars, nor more than Fifty (\$50.00) Dollars for each and every violation of same, and each day's failure after notification shall constitute a separate offense.

SECTION 18. That all laws or parts of laws in conflict with the provisions of this Act be and are hereby repealed, and that this Act take effect from and after its passage, the public welfare requiring it.

Passed: June 23, 1931.

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