



WATER-HEATER PLUMBING DEFICIENCIES REPORT

Spark Hotel | 6950 Nova Way, Manassas, VA

Company: Remington Construction LLC Report date: July 20, 2026

Report scope: Existing water-heater deficiencies and mandatory corrective work

Inspection assumption: Each listed condition is treated as missing, defective or noncompliant. Final acceptance remains subject to field verification, approved documents, equipment listings/manufacture instructions, the registered design professional and the Authority Having Jurisdiction.

EXECUTIVE RECOMMENDATION

Correct the water-heater installations as one coordinated scope: complete grounding, insulate all applicable piping, install approved pads and properly sized metal drain pans, provide code-compliant condensate collection and neutralization kits, install required vacuum relief protection, replace the flexible gas connectors w rigid piping, and maintain all service clearances. Backflow/check-valve placement and instrumentation must be finalized by the registered design professional. Install all missing supports, pipe clamps etc.

Summary Metric	Count	FIELD ASSUMPTION AND CODE APPLICATION
Deficiency items requiring correction	7	Every item below is documented as missing, defective or noncompliant and requires corrective work. The existing gas connectors are assumed to fail the applicable listing/design/Section 411 requirements. The approved water-heater installation requirements are assumed to require condensate neutralization. The heaters are assumed bottom-fed for vacuum-relief application, and metallic-piping missing ground protection.

WATER-HEATER PLUMBING DEFICIENCIES AND REQUIRED CORRECTIVE ACTIONS

No.	Deficiency / Required Work	Field Condition / Scope	Virginia Code Assessment	Required Corrective Action / Verification	Code Reference	Deficiency Status
1	Missing grounding	Pipes missing ground protection	installation does not comply requirements for water piping.	Install proper grounding for the copper piping	2021 VPC	MISSING / NONCOMPLIANT
2	Missing insulation on water-heater piping	Required insulation is missing from the water-heater inlet, outlet, hot-water and associated service-water piping.	The uninsulated piping is treated as outside all listed exceptions. The installation therefore does not comply with VPC Section 607.5 and VECC Section C404.4, including the applicable insulation thickness requirements.	Install continuous code-compliant insulation of the correct material and thickness. Seal joints, fittings and terminations; coordinate insulation with bonding clamps, valves, unions and pipe supports; verify the approved energy documents.	2021 VPC 607.5; 2021 VECC C404.4 and Table C403.12.3	MISSING / NONCOMPLIANT
3	Missing equipment pads, proper drain pans and complete condensate system	Approved level equipment pads/bases are missing. Existing drain pans are not installed, condensate-disposal system are missing or improperly installed.	The installation is treated as a location where leakage can cause damage. The noncompliant/missing pans fail the minimum 1-1/2-inch depth, sufficient-size, material and minimum 3/4-inch indirect-drain requirements. The water heaters also fail the approved support/base and manufacturer-installation requirements.	Shut down and isolate the equipment; disconnect and cut/remove interfering piping; install approved level pads/bases, compliant metal drain pans, full-size pan drains and the complete condensate system; reconnect the piping, pressure/leak test and recommission each heater.	2021 VPC 502, 504.7-504.7.2; 2021 VAFGC 307.2-307.5 and 624.1; manufacturer instructions	MISSING / NONCOMPLIANT
4	Missing vacuum relief valves	The water heaters/tanks are treated as bottom-fed and the required listed vacuum relief valves are missing.	Because the units are bottom-fed, the absence of ANSI Z21.22 vacuum relief valves does not comply with VPC Section 504.2. The installation also lacks the required approved means to prevent siphoning under Section 504.1.	Install a listed ANSI Z21.22 vacuum relief valve at the required upper-tank/cold-water location for each heater. Follow the approved design and manufacturer schematic and keep every valve accessible for inspection and service.	2021 VPC 504.1 and 504.2; ANSI Z21.22; manufacturer instructions	MISSING / NONCOMPLIANT
5	Noncompliant flexible gas connectors; rigid metallic piping required	The installed flexible appliance connectors are treated as unapproved for this installation and noncompliant with theapplicable connector requirements.	The existing connectors fail one or more requirements of VAFGC Section 411, such as listing, capacity, length, protection, accessibility, prohibited penetration or manufacturer approval. Under that assumption, the existing gas connections are noncompliant and must be replaced.	Remove the flexible connectors and install properly sized and supported rigid metallic gas piping. Provide the required accessible shutoff valves, unions and sediment traps; avoid strain on the appliances; pressure/leak test the completed gas piping and obtain manufacturer/AHJ acceptance.	2021 VAFGC 305.12, 402, 403, 408.4, 409.5, 411 and 624.1	MISSING / NONCOMPLIANT
6	Missing condensate neutralization kits, routing and supports	Required condensate neutralizers are missing. Condensate piping does not reach an approved disposal point and lacks the complete slope, traps, indirect connection, access and associated supports.	For this report, the manufacturer/approved design and receiving drainage system are assumed to require condensate neutralization. The missing neutralizers and incomplete routing also fail the code requirements	Install manufacturer-approved neutralization kits for every condensing heater. Route condensate to an approved indirect receptor with the required trap and air gap/air break; provide continuous slope, accessible service points and all associated supports; test drainage and document neutralizer maintenance requirements.	2021 VAFGC 307.2-307.4 and 624.1; 2021 VPC 308, 802 and 803; manufacturer instructions	MISSING / NONCOMPLIANT

7	Missing engineered backflow, check-valve and instrumentation design	An approved engineered layout is missing for the backflow preventer/check valves, isolation valves, unions, thermometers, pressure gauges and thermal-expansion control. Device locations and service/testing access have not been established.	The absence of an approved system design prevents verification of the required backflow protection, check-valve arrangement and downstream thermal-expansion control. The installation is treated as incomplete and noncompliant until the registered design professional establishes the required devices, locations and instrumentation.	The registered design professional must issue the final design showing device types and locations, isolation valves/unions , thermometers, pressure gauges, thermal-expansion control, testing access and service clearances. Install only after the design is approved and coordinated.	2021 VPC 503.1, 607.3, 608 and 312.10; approved drawings/specifications; manufacturer instructions	MISSING / NONCOMPLIANT
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FIELD EXECUTION NOTE

No leaks have been observed on the water heaters. Following review by the **Prince William County inspector**, a **permit must be obtained** and **authorization received to perform corrective work** on the water heaters and associated equipment. Upon completion of the repairs, the equipment must be recommissioned and inspected.



Task: WATER HEATER #3



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Task: WATER HEATER #3



File: photo_1783702817005.jpg

Task: WATER HEATER #1



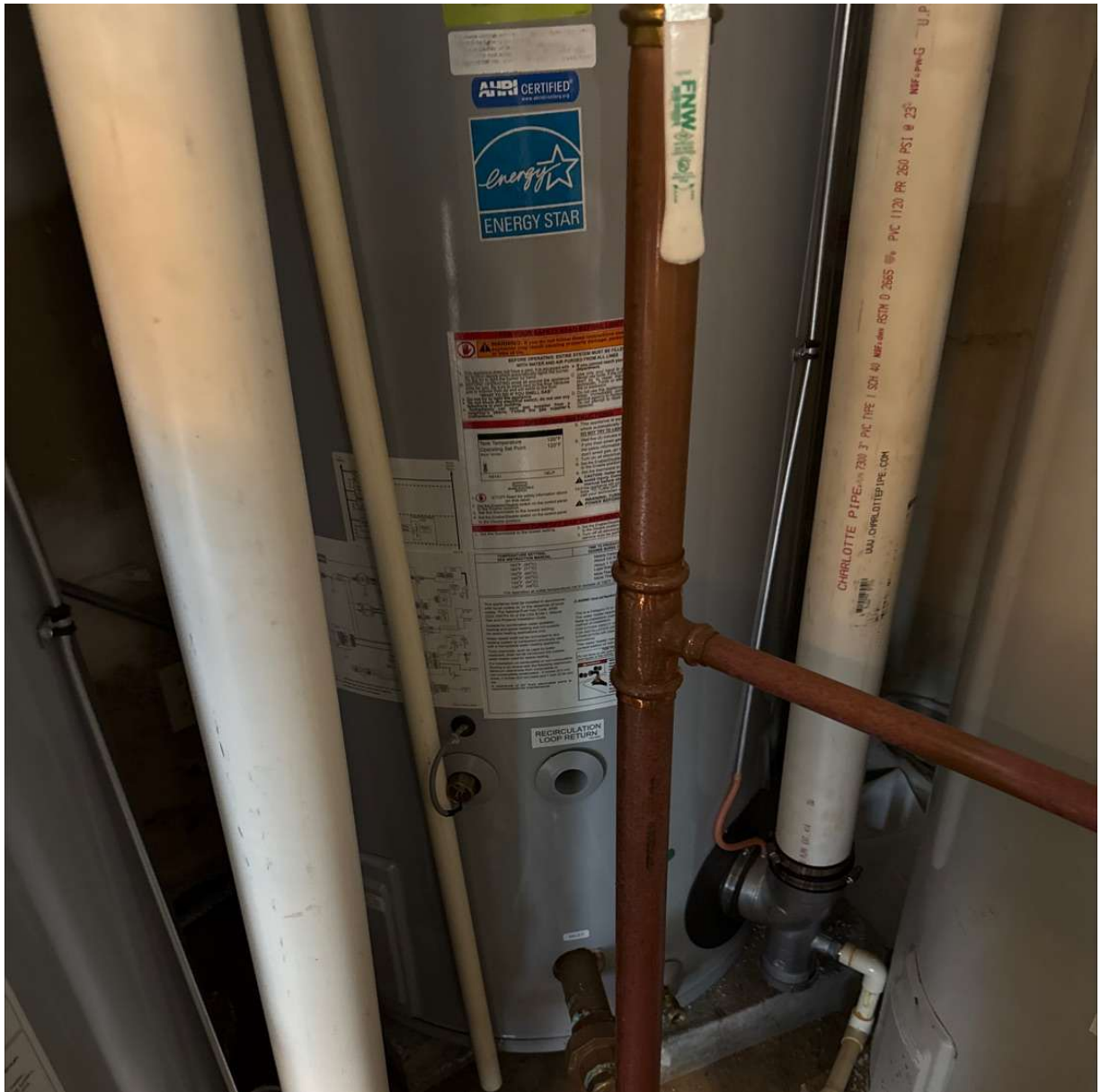
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Task: WATER HEATER #1



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Task: WATER HEATER #2



File: photo_1783702652679.jpg

Task: WATER HEATER #2



File: photo_1783702638308.jpg

Task: WATER HEATER #3



File: photo_1783702610554.jpg

Task: Check pipes



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Task: Check pipes



File: 9eca4e32-6828-49d9-9f91-7e66f76bd42e.jpeg

Task: Valve check



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Task: Valve check



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Task: Valve check



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Task: Valve check



File: 97e27610-b70f-49d6-b5da-f39b98fddf79.jpeg

Task: Overall condition



File: 45920cbf-f1b9-4001-99ea-3004957899a8.jpeg

Task: Check condensate pipes



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Task: Check condensate pipes



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Task: Check condensate pipes



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Task: Check condensate pipes



File: 222f2268-3c58-43a2-bf30-95d2e89e0613.jpeg

Task: Overall condition



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