

# memo

To: Representative Tony Lekas  
From: 2022 HB1312 Ad Hoc Committee  
Date: September 2, 2022  
Re: Resolution of 2022 HB1312 issues

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At an HB1312 Study Committee meeting on June 15, 2022, the New Hampshire Department of Environmental Services (NHDES) and the Building Code Review Board (BCRB) were asked to work together to resolve issues brought up at the meeting. These issues include the minimum 1,000 gallon grease interceptor size required by NHDES, and the potential conflict between NHDES rules and RSA 155-A:2,X.

Philip R. Trowbridge, P.E., Land Resources Management Program manager from NHDES, and Philip R. Sherman, P.E., Chair of the Building Code Review Board formed an ad hoc committee, ultimately consisting of Mr. Trowbridge who managed the committee administratively, Mr. Sherman, Representative Peter Schmidt, Representative Carol McGuire, Dawn Buker and Raymond Gordon from NHDES, Colleen Smith from DHHS, Tedd Evans and Roger Maynard from the BCRB, Mitchell Cady from the State Fire Marshal’s Office and William McKinney, president of the New Hampshire Building Officials Association (NHBOA) and Code Official in Nashua.

The committee met on June 27 and July 26, 2022. During the discussions, an additional technical issue was identified related to indirect drainage from sinks, as discussed below.

This memo will set forth the factual background, a summary of the issues, and proposed action steps resulting from the committee’s review.

## **Factual basis**

1. The scope of the 2018 International Plumbing Code (IPC) extends to the public sewer, private sewer, individual sewage disposal system or other point of disposal (see 2018 IPC 202 definition of building sewer). The IPC therefore applies to systems connected both to public and private disposal systems
2. Plumbing licensing extends to the first fitting beyond the foundation wall of the building or 5 feet of pipe from the building. (RSA 153:27 XIV)
3. NHDES grease interceptor requirements apply to any commercial facility in which food handling and preparation occurs that is connected to an individual sewage disposal system. ([Env-Wq 1012](#))

4. Public sewage authorities regulate the pretreatment of waste being discharged to their systems. (RSA 485-A:5)

### **Summary of the issues**

1. The scope of the plumbing code and the scope of NHDES regulatory authority overlap with regard to grease interceptors.
2. The plumbing code permits either a hydromechanical (interior) or gravity type (exterior) grease interceptor to prevent the discharge of grease to any system, while NHDES requires a gravity type interceptor if connected to an individual sewage disposal system.
3. NHDES currently requires a minimum gravity tank size of 1,000 gallons and requires a minimum hydraulic detention time of 36 hours (Env-Wq 1012). The plumbing code defines a gravity grease interceptor as a plumbing appurtenance of not less than 500 gallons (2018 IPC 202). The plumbing code requires a gravity grease interceptor to have a minimum retention time of 30-minutes based on the peak drain flow (2018 IPC 1003.3). The HB1312 study committee requested an evaluation of whether smaller external gravity grease traps or internal hydromechanical devices could be used for small facilities.
4. The 1,000-gallon tank size for gravity grease interceptors in New Hampshire is similar to requirements in Maine, Vermont, Massachusetts, and Rhode Island. See Table 1 for summaries of the regulations in all New England states.
5. NHDES currently approves waivers to use hydromechanical systems to capture grease for some small occupancies, and the points of approval are common to these occupancies. NHDES has the authority to approve waivers for other reasons provided they meet the waiver criteria in Env-Wq 1001.03. The availability of waivers may not be well understood by those being regulated.
6. The plumbing code currently requires wash, rinse and sanitizing sinks to be equipped with indirect drains. NHDES grease interceptor regulations and DHHS food regulations assume that only the sanitizing sink might be used for food preparation, resulting in the technical need for an indirect drain for this sink only. If a hydromechanical grease interceptor is installed downstream from an indirect drain, insufficient head pressure is developed to operate the grease interceptor correctly, and spillage can result, unless the interceptor is significantly oversized.

### **Action steps**

Representatives of the BCRB and NHDES propose proceeding with the following steps, through the respective code amendment and rulemaking processes.

1. Amend the IPC definition of the limits of the building sewer, to align with the plumbing license, which per RSA 153:27 XIV is the first pipe fitting beyond the foundation wall of the building or 5 feet of pipe from the building.
  - a. This puts exterior gravity type grease interceptors, manholes, pump stations, etc. and exterior piping that serves septic tanks, under NHDES regulation, and those that serve municipal systems, under local jurisdiction.
  - b. Leave the permissive requirement for gravity interceptors and exterior sewer piping in the plumbing code, as some municipalities may want to simply reference the plumbing code for specifications related to connections to their systems.

2. Amend the IPC to state that in occupancies served by a NHDES approved septic system, and where a grease interceptor is required, and a hydromechanical grease interceptor is the only grease interceptor that is provided, NHDES approval is required.
3. Amend NHDES rules to permit, in occupancies served by a NHDES approved septic system, a hydromechanical system, per the NH Plumbing Code, instead of an external gravity grease interceptor in cases where:
  - a. There is no mechanical dishwasher;
  - b. There is no deep fryer;
  - c. There is no in-sink garbage disposal;
  - d. The facility uses paper service only;
  - e. The facility does not have dine-in seating and is take-out only; and
  - f. The flow from the facility will be less than 150 gallons per day (GPD). The flow from the facility can be determined from:
    - i. The unit flows table in Env-Wq 1008.03 such as:
      - 3 GPD per meal + 20 GPD per employee
      - 100 GPD per dipper + 20 GPD per employee for ice cream stands
    - ii. Metered flows per Env-Wq 1008.03
4. Amend the NHDES rules regarding waivers to add criteria for approval of a waiver regarding grease interceptors. For example, if an establishment did not meet the criteria in #3, above, it could still apply for a waiver from the external grease interceptor requirement if it could meet the following criteria:
  - a. Applicant has an alternative Fats, Oils, and Grease (FOG) management plan that is approved by the department which demonstrates that:
    - i. The Applicant will discharge less than 0.05 pounds of grease to the septic system per day; and ([equivalent to 10 meals of low grease food](#)); and
    - ii. Applicant has procedural safeguards and training for employees to ensure the alternative management plan will be followed.
  - b. The septic system has been designed by a permitted septic system designer to treat the wastewater from the proposed food service use and is approved by the department for construction and operation.
  - c. A permitted septic system designer has confirmed that the design and installation manual for the type of septic system does not require a gravity grease interceptor tank.
5. Amend the NHDES rules to reduce the minimum tank size for external gravity grease interceptors to 500 gallons to match the IPC. The NHDES rules would continue to require that the tank have a 36-hour detention time, which would make this tank size useable for flows up to 300 GPD. For food service establishments with flows greater than 300 GPD, larger tanks (typically 1,000

gallons) would need to be used. Some of the benefits of the larger tank size are listed below:

- a. The 1,000-gallon tank provides a margin of safety to account for variations in the types of food served, the strength of the wastewater, and type of establishment. For example, a fast-food restaurant that does most of its business by drive-through is still evaluated based on the number of physical seats for dining in. This margin of safety provides flexibility to the restaurant regarding their menu and service type under one state approval.
  - b. The 1,000-gallon tank size reduces pump out costs because fewer service calls are needed. The cost of a service call is high. The 1,000-gallon tanks can store more grease such that they can be pumped quarterly for most restaurants. The larger size allows for pump outs to be on a routine schedule, which is less expensive than emergency calls.
  - c. The 1,000-gallon tanks are better at protecting the septic system and the groundwater. The size of the tank reduces the chance of contamination of septage due to grease pass through which would result in more costly septage disposal and leach field failure.
6. The plumbing code Section 802.1.7 will be amended to permit either a direct or indirect drain from washing and rinsing sinks.
  7. NHDES will review the design and testing requirements for external gravity grease interceptors cited in the NHDES rules (ASTM C1644 and C1613, IAPMO/ANZI Z1000) and the Plumbing Code (IAPMO/ANZI Z1001) and will identify and work with BCRB to make amendments to either the IPC or the NHDES rules to resolve any inconsistencies.
  8. NHDES, NHBOA and the Mechanical Safety and Licensing Board, which regulates plumbers, will work to educate the appropriate parties on the jurisdictional limits resulting from these changes, including code requirements for the type of pipe entering the building.

## **Conclusions**

We believe that the above steps will achieve the objectives of the HB1312 Study Committee as they will:

- Eliminate the conflict between the NHDES grease interceptor rules and RSA 155-A:2,X; and
- Provide more flexibility regarding the type of grease interceptor that may be used by small food service establishments. First, small establishments meeting the criteria in #3 above will be eligible to use an internal hydromechanical device instead of an external gravity grease interceptor. Second, establishments that do not meet the criteria in #3 but have procedures in place to avoid grease discharges could apply for a waiver of the grease interceptor rules. And third, a 500-gallon external grease interceptor tank will be allowed for establishments with flows less than 300 GPD.

Some of the changes proposed in this report will require approval by the Legislature or the Joint Legislative Committee on Administrative Rules. The time to prepare the proposals and to obtain official approvals will likely be 9-12 months.

Further review is necessary to determine what other New Hampshire state agency administrative rules result in additional conflicts and consideration of the needs of all parties will be needed to determine how best to correct the situation. BCRB will proceed to work on this issue in the coming year.

**Table**

Table 1: Comparison of regulations regarding gravity grease interceptors in New England states

<b>State</b>	<b>Min Grease Interceptor Tank Size (gal)</b>	<b>Minimum Hydraulic Detention Time (hours)</b>	<b>Notes</b>
New Hampshire	1,000	36	Hydraulic detention time is based on kitchen waste flow only.
Vermont	1,000	NA	
Maine	750	NA	
Massachusetts	1,000	24	Hydraulic detention time is based on kitchen waste flow only.
Rhode Island	1,000	24	Hydraulic detention time is based on 50% of design flow for the whole septic system.
Connecticut	NA	NA	Connecticut requires the septic tank to be increased by a minimum of 50% if a grease interceptor cannot be installed.