Septic System Residential Improvement Policy

This document provides guidance for property owners who wish to make improvements, remodel, or add onto their residences which are served by onsite wastewater treatment systems, also known as septic systems.

Building permit applications for residential improvement projects are classified by the County's Building and Safety Division and are routed to Environmental Health Services (EHS) for review.

MAINTENANCE AND REPAIRS

Projects that constitute typical maintenance and repair activities such as re-roofing, installing new windows, making energy efficiency improvements, plumbing permits, electrical permits, new siding, etc., do not require any permit or review by EHS.

MISCELLANEOUS IMPROVEMENTS: DETACHED NON-HABITABLE STRUCTURES, DECKS, POOLS AND SPAS

Miscellaneous projects such as the addition to, or construction of retaining walls, decks, ground mounted solar installation, and other similar structures that may affect the septic system, will be reviewed to determine conformance with setbacks to the septic system. For projects involving the construction of pools, spas, and detached non-habitable structures, an inspection of the septic system and the reserve area are required. The following requirements apply:

1. **Plot Plan**: For all projects, provide an accurate plot plan showing septic tank(s), disposal field(s), wells, springs or waterbodies. Show the dimensions of the disposal field(s). You may have to probe or excavate to determine their location, width, and depth. A reserve area must be sited by a Qualified Professional and shown on the plot plan.

2. **Maintain Setbacks**: Maintain the setbacks as noted:

Project Type	Setback to Septic Tank	Setback to Edge of Disposal Field
New or Addition to Detached Non-Habitable Accessory Structure	5 feet	10 feet
Repair of Existing Deck	3 feet	5 feet
New or Addition to Existing Deck	5 feet	10 feet
Pool or Spa	10 feet	25 feet
Interceptor Drain Installed Upslope	5 feet	15 feet
Interceptor Drain Installed Laterally	10 feet	25 feet
Interceptor Drain Installed Downslope	25 feet	50 feet
Interceptor Drain Tight Line	-	10 feet

3. **Inspection:** If applicable to the scope of the project, provide an inspection report from a County-registered septic system Service Provider, State licensed General Engineering (Class A) Contractor, C-42 Contractor, Registered Environmental Health Specialist, Registered Geologist, or Registered Civil Engineer which documents that the home is not served by a cesspool and has a septic tank made of approved materials (concrete, polyethylene, or fiberglass). The septic tank is required to be watertight, have waterproof inspection risers with secured lids, have an effluent screen or filter, and there should be no signs of septic system malfunction or failure. The date of the inspection shall be no more than one year prior to the building permit application submittal date.

   If the system does not pass the inspection, depending upon what is wrong, repairs could involve a minor fix (with no permit required) or a more substantial repair requiring the issuance of a permit to meet at least the Class III standards for existing systems. For system classifications, see the later section "Defining Your Onsite Wastewater System."

MINOR REMODELS

A minor remodel is one that affects less than or equal to 50% of the habitable square footage within the existing residence. There shall be no increase in the number of bedrooms, square footage of the residence, accessory structures, building footprint, or increase in sewage flow (the addition of a bathroom within the existing building footprint is acceptable).

A minor remodel requires approval of the building permit by EHS. A review of the septic system and the reserve area is required. The following requirements apply:

1. **Plot Plan:** Provide an accurate plot plan showing septic tank(s), disposal field(s), wells, springs or waterbodies. Show the dimensions of the disposal field(s). You may have to probe or excavate to determine their location, width, and depth.

2. **Inspection:** Provide an inspection report from a County-registered septic system Service Provider, State licensed General Engineering (Class A) Contractor, C-42 Contractor, Registered Environmental Health Specialist, Registered Geologist, or Registered Civil Engineer which documents that the home is not served by a cesspool and has a septic tank made of approved materials (concrete, polyethylene, or fiberglass). The septic tank is required to be watertight, have waterproof inspection risers with secured lids, have an effluent screen or filter, and there should be no signs of septic system malfunction or failure. The date of the inspection shall be no more than one year prior to the building permit application submittal date.

   If the system does not pass the inspection, depending upon what is wrong, repairs could involve a minor fix (with no permit required) or a more substantial repair requiring the issuance of a permit to meet at least the Class III standards for existing systems. For system classifications, see the later section "Defining Your Onsite Wastewater System."

3. **Proximity to Water:** If the system's dispersal field is within 100 feet of a waterbody (creek, bay, wetland, or reservoir), the system must pass a hydraulic load test per the *Septic System Performance Evaluation Guidelines* protocol with a performance rating of satisfactory or better.

MAJOR REMODELS

A major remodel is one that affects more than 50% of the habitable square footage within the existing residence.

The requirements for a major remodel and a minor expansion are the same and are described in the following section.

RESIDENTIAL EXPANSIONS

A residential expansion is an addition of habitable space to a residence, either through an increase in the footprint of the house, the addition of a second or third floor, or the conversion of existing non-habitable space to habitable space. The regulations tie the gross floor area of the residence to the septic system size as shown in the table below.

Septic system size (no. of bedrooms)	Gross Allowable Floor Area in sq. ft.
1	1450
2	2000
3	2900
4	**Ask EHS staff**

Expansions are divided into the following two categories:

1. **Minor expansions** – the addition of up to 500 square feet of habitable space to a residence.

2. **Major expansions** – the addition of more than 500 square feet of habitable space to a residence, the addition of a bedroom, or an increase in habitable space that exceeds the gross allowable floor area for the number of permitted bedrooms.

MAJOR INTERNAL REMODELS AND MINOR EXPANSIONS

A minor expansion of up to 500 square feet in habitable area or a major remodel requires approval of the building permit by EHS. A review of the septic system and the reserve area are required. The following requirements apply:

1. **Plot Plan:** Provide an accurate plot plan showing septic tank(s), disposal field(s), wells, springs or waterbodies. Show the dimensions of the disposal field(s). You may have to probe or excavate to determine their location, width, and depth. A reserve area must be sited by a Qualified Professional and shown on the plot plan.

2. **Sewage Flow:** There is no change in the sewage flow (number of bedrooms), or impact to the septic system reserve area. The building must remain within the gross floor area limitations depicted in the table above.

3. **Tanks & Risers:** The system must have a watertight septic tank made of approved materials (fiberglass, polyethylene, or concrete), an effluent screen or filter, and waterproof inspection risers with secured lids.

4. **Performance Evaluation**: A review of the septic system and the reserve area are required. The performance evaluation includes a hydraulic load and dye test which may be conducted by a State licensed General Engineering (Class A) Contractor, C-42 Contractor, Registered Environmental Health

Specialist, Registered Geologist, or Registered Civil Engineer. The hydraulic load test will be based on the number of legally permitted bedrooms on the property. The septic system must pass the performance evaluation with a rating of Good or Excellent. If the septic system receives a marginal rating on the performance evaluation, EHS staff will ask for a more detailed examination to determine the cause of the poor performance. Septic systems that do not pass the performance evaluation will be required to be upgraded to meet the Class II standards. The date of the performance evaluation shall be no more than one year prior to the building permit application submittal date. More information about the performance evaluation is detailed in a separate document: *Septic System Performance Evaluation Guidelines.*

5. **Groundwater:** For the building permit to be approved, no portion of the septic system's dispersal field may be in contact with the groundwater. A brief site visit by County EHS staff may be required, and portions of the system may need to be exposed if the location or construction is unclear. Siting a reserve area and determining depth to groundwater must be accomplished by EHS staff or Registered Environmental Health Specialist, Registered Geologist, or Registered Civil Engineer. On a case-by-case basis, EHS staff may request that the owner excavate a trench at least two feet below the dispersal trench depth to observe soils and check for signs of groundwater or seasonal saturation of the system. Septic systems that are found to be in contact with the groundwater will be required to be upgraded to meet at least the Class II standards before a building permit can be approved.

6. **For parcels within 100 ft. of a waterbody (creek, bay, wetland, or reservoir):**
   If any part of the septic system's dispersal field is within 100 feet of a waterbody, the applicant may choose one of the following options:

   a. Obtain a septic permit and relocate the system away from the 100-foot zone.
   b. Obtain a septic permit and upgrade the system to meet the Class II Standards.
   c. Show that the system passes a performance evaluation with a rating of Good or Excellent.

MAJOR EXPANSIONS

The addition of one or more bedrooms, an expansion of more than 500 square feet of habitable space to a residence, or an expansion of habitable space that exceeds the allowable square footage per bedroom, as listed under Residential Expansions, will require the septic system to meet current code for the number of bedrooms and wastewater capacity. These are defined as Class I systems. It may be possible to upgrade an older system to conform to current codes. See EHS staff or consult a qualified septic system designer if you would like more information regarding this type of project.

The following requirements apply for existing Class I systems:

1. **Plot plan:** An accurate plot plan of the septic system must be included in the building plans submitted for the proposed project.

2. **Performance Evaluation:** A review of the septic system and the reserve area are required. The performance evaluation includes a hydraulic load and dye test which may be conducted by a State licensed General Engineering (Class A) Contractor, C-42 Contractor, Registered Environmental Health Specialist, Registered Geologist, or Registered Civil Engineer. The hydraulic load test will be based on the number of legally permitted bedrooms on the property. The septic system must pass the performance evaluation with a rating of Good or Excellent. If the septic system receives a marginal rating on the performance evaluation, EHS staff will ask for a more detailed examination to determine the cause of the poor performance. Septic systems that do not pass the performance evaluation will be required to be repaired and meet the Class I standards which are described on the following page. The date of the performance evaluation shall be no more than one year prior to the building permit

application submittal date. More information about the performance evaluation is detailed in a separate document, *Septic System Performance Evaluation Guidelines.*

3. **Current Monitoring Report:** If the system currently serving the property is a Class I system on an Operational Permit, the monitoring report must be current for the year, the system shall function as designed, and be in good repair.

DEFINING YOUR ON-SITE WASTEWATER SYSTEM

Septic systems, also known as onsite wastewater treatment systems, are categorized in four classes.

CLASS I: Current Code

A Class I system is an onsite wastewater treatment system that complies fully with the current *Marin County Regulations for Design, Construction and Repair of Individual Sewage Disposal Systems*. A Class I system can be a standard or Alternative septic system that is composed of an approved watertight, two compartment septic tank with watertight risers and secured lids, has 200% of the leachfield required to serve the property or a designated reserve area, has two to three feet (depending on pretreatment) of separation from bottom of the dispersal field to groundwater, and meets all minimum setbacks. A Class I septic system can be an existing or new septic system that has a permit under these regulations.

CLASS II: Repair Standards

A Class II system is an onsite wastewater treatment system that does not fully comply with current regulations but meets much of the siting and design criteria. A Class II system may be one of the following:

A) An existing system that has been issued a permit under the current *Marin County Regulations for Design Construction and Repair of Individual Sewage Disposal Systems* and classified as a Class II, OR

B) An existing system that has been issued a permit under a previous set of regulations and meets the Class II minimum standards provided below, OR

C) An existing system that is presently undocumented but meets the Class II minimum standards provided below. The applicant may submit a permit application accompanied by three sets of engineered plans and supporting calculations. The system must pass the *Septic System Performance Evaluation Guidelines* protocol with a rating of satisfactory or better. The test shall be conducted within the preceding 12 months by a Registered Environmental Health Specialist, Registered Geologist, or Registered Civil Engineer.

Please note that seepage pits do not qualify as Class II systems.

What are the minimum standards for a Class II Septic System?

1. A watertight 1200 to 1500 gallon two compartment septic tank constructed of approved materials, watertight pump chamber (if applicable), and a primary disposal area consisting of at least 100% of the leachfield area required for the number of bedrooms of the residence. The leachfield calculation is based upon the soil type, trench depths, soil percolation rates (if available), and whether septic tank effluent is given additional treatment before dispersal in the soil absorption system.

2. A 100% reserve area is set aside for possible future use or alternatively, a contingency plan is provided in case of malfunction or failure.

3. There is at least 36 inches of separation between the bottom of the disposal field and the high seasonal groundwater. This is determined by field morphology, historical ground water information, or actual field

measurements conducted during wet weather testing. If it is not possible for the disposal field to maintain this setback, a reduced set back may be accepted under the following conditions:

a. If there is a separation of 24 inches from the bottom of disposal field to the high seasonal groundwater, an approved pretreatment unit and an Operating Permit will be required.

b. For systems that cannot provide any of the above-mentioned separations but have at least some separation between the disposal field and groundwater, a pretreatment unit and some method of disinfection, (U.V. etc.) will be required along with an Operating Permit.

4. Actual percolation tests or soil textural evaluations will be used to determine the effluent application rate.

5. The septic tank and pump chambers must be watertight and shall be equipped with waterproof risers and secured lids. The outlet of the septic tank shall have an approved biofilter or effluent screen.

6. Approved innovative systems can be permitted as Class II systems. See EHS staff for a list of these systems.

Class II Minimum Horizontal Setbacks

Site Feature	Setback to Septic Tank	Setback to Disposal Field
Downslope property line	5 feet	10 feet
Adjoining property line	1 – 5 ft	1 – 5 ft
Building	3 – 5 ft	3 – 5 ft
Water well	50 ft*	100 ft
Cut, Embankment or Natural Bluff	10 ft	4 x Height of cut
Domestic water line (sleeved)	1 – 5 ft	5 – 10 ft
Driveway or paved surface	1 – 5 ft	1 – 5 ft
Swimming pool	5 – 10 ft	5 –10 ft
Unstable Land Form	50 ft	50 ft
Ocean, Bay or Tidal Estuary	30 ft*	75 ft**
Perennial Watercourse	25 ft*	50 ft**
Ephemeral Watercourse or Seasonal Wetland	25 ft*	35 ft**
Intermittent Watercourse	25 ft*	35 ft**
Natural Lake or Water Supply Reservoir	75 ft*	150 ft

*With proof of certification that the tank is watertight.
** With installation of an approved effluent pretreatment unit.

If it is not possible to maintain these setbacks, additional mitigation measures may be required.

CLASS III: Existing Systems

A Class III system is one that received a permit under the current or previous regulations. The system is not in full compliance with the current regulations and does not meet the minimum standards for a Class II system.

A performance evaluation prepared by a qualified professional and performed according to the *Septic System Performance Evaluation Guidelines* protocol, shall indicate that the system is in good working condition and does not pose a threat to water quality or public health. Additionally, information such as property slope, water use data, wastewater strength, or other information, may be necessary to support the performance evaluation.

What are the minimum standards for a Class III Septic System?

1. A watertight 810 gallon septic tank and watertight pump chamber (if applicable).

2. A disposal field that may be less than or equal to 100% of the required leaching area for the number of bedrooms in the residence.

3. The system may incorporate some type of approved pretreatment unit with a disposal field that does not meet the Class II minimum setbacks. Any proposal to reduce the size of the disposal field shall consider the soil characteristics, the amount of flow, setbacks, and shall follow the procedures provided in Section 800 of the *Marin County Regulations for Design, Construction and Repair of Individual Sewage Disposal Systems* regarding enhanced effluent application rates.

4. Some separation is maintained between the bottom of the disposal field and the high seasonal groundwater.

CLASS IV: Undocumented and/or Unapproved Systems

A system may be classified at Class IV for one or more of the following reasons:

1. The septic tank is made of unapproved materials such as redwood, steel, or cinder blocks.

2. The system utilizes a cesspool.

3. The system has no documentation i.e., no permit record.

SEPTIC SYSTEM UPGRADE PROCEDURES

For an existing system that has no documented records, the system may be reclassified to Class III if the following requirements are satisfied:

1. An accurate plot plan showing the location of the system components shall be submitted.

2. The current system must have a septic tank that meets at least the Class III septic tank standards. Otherwise, a new septic tank can be installed under permit.

3. The system must have a disposal field.

4. The system must pass the *Septic System Performance Evaluation Guidelines* protocol have a reserve area identified and set aside. In lieu of the reserve area requirement, a contingency plan may be provided. This report must be prepared by a Registered Environmental Health Specialist, Registered Geologist, or Registered Civil Engineer within the preceding 12 months.

5. Some separation is maintained between the bottom of the disposal field and the high seasonal groundwater.

If the applicant wishes, the system may be reclassified to Class II if the following requirements are satisfied:

1. The system meets the Class II minimum standards (see the description on the previous page)

2. The applicant submits a septic permit application and fee for approval, accompanied by three sets of engineered plans and supporting calculations.

3. The system passes the *Septic System Performance Evaluation Guidelines* protocol with at least a satisfactory rating. This report must have been prepared by a Registered Environmental Health Specialist, Registered Geologist, or Registered Civil Engineer within the preceding 12 months.

It may be possible to upgrade an older system which conforms to current codes to Class I. See EHS staff or consult a qualified septic system designer if you would like more information regarding this type of project.

For any questions regarding this policy, please contact EHS staff at 415-473-6907.

Marin County Environmental Health Services Residential Additions, Remodels, and Improvements Policy

	Minor Maintenance and Repairs	Minor Remodel and Misc. Projects	Major Remodel	Minor Expansion	Major Expansion
PROJECT DESCRIPTION	Includes maintenance permits for roofing, plumbing, electrical, and other minor repairs. Energy improvements that do not affect the septic system are included in this category.	Affects less than or equal to 50% of the habitable square footage within the existing residence. Miscellaneous projects include the construction or expansion of non-habitable detached structures, decks, pools, and spas.	Affects more than 50% of the habitable square footage within the existing residence.	An addition of less than or equal to 500 square feet of habitable space to a residence.	An addition of more than 500 square feet of habitable space to a residence. The addition of a room that meets the EHS definition of a bedroom. The addition of an accessory dwelling unit. Any addition of habitable space that exceeds the gross allowable floor area for the number of permitted bedrooms, as shown in the table under *Minor Expansion*.
EHS ACTION	No EHS review	EHS Review	EHS Review	EHS Review	EHS Review
APPLICATION REQUIREMENTS	• No EHS Submittal Required	• Septic plot plan with reserve area • For *Minor Remodels,* an inspection report shall be completed by a service provider, Class A or C-42 contractor, or a qualified professional* • For a minor remodel, if the system is within 100' of waterbody, the system shall pass a hydraulic load test with a rating of satisfactory or better	•Septic Plot Plan with Reserve Area •An inspection Report shall be completed by a qualified professional or a contractor possessing a valid Class A or C-42 license *. Inspection must show groundwater separation and show a reserve area • Pass hydraulic load and dye test (Class II repair required for failed test) • If the system is within 100' of a waterbody: a. Relocate system; b. Upgrade to Class II standards; c. Show that system meets good or excellent rating on hydraulic load test .	• Same requirements as listed under Major Remodel • Septic system and reserve area setbacks must not be impeded upon by new construction • After the expansion, the structure must not exceed the gross floor area for the bedroom count as specified below : **Bedrooms** / **Maximum floor area in Ft²** 1 / 1450 2 / 2000 3 / 2900 4 / SEE EHS STAFF	• A Class I system must be installed and permitted for the number of bedrooms proposed • The septic system must pass an inspection • A hydraulic load test conducted by a qualified professional or a contractor possessing a valid Class A or C-42 license may be required* • EHS staff may require a site evaluation • For systems currently under an operating permit, in good repair and for which the annual report has been submitted for the fiscal year, the site evaluation, inspection, and a hydraulic load test are not required

*Ask EHS staff for a list of service providers, contractors, and qualified professionals that are approved to perform work on onsite wastewater treatment systems in the County of Marin

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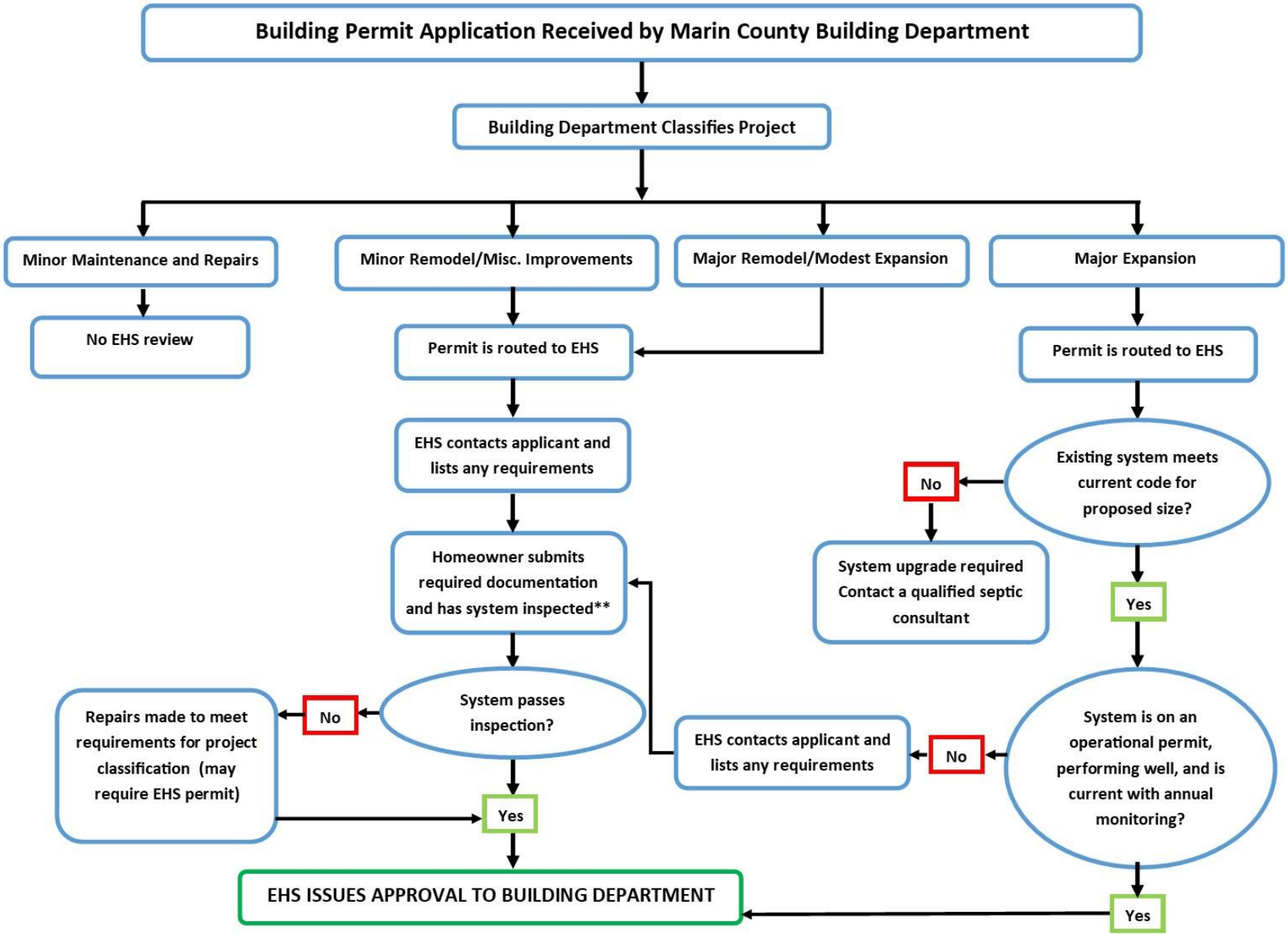

This is not intended to be a full summary. See Environmental Health Services' Policy Regarding Residential Remodels and Additions for more details.

*** Only if an inspections is required, based on the scope of the project*