

Memorandum

To: Town of Marble Public Health Board
From: Eric A. and Christine M. Lawrence
Date: January 9, 2020
RE: Public Hearing for Repair Application at 209 Hill Street

BACKGROUND

Prior to purchasing the property at 209 Hill Street we invited Ron Leach (town clerk/building official/health officer) to the property to review the situation and get his advice on moving forward. We were aware that the existing system at the house that disposed of graywater on the ground and a pit privy for it's septic system were 2 systems not current with existing public health requirements. We wanted to make sure we did the right thing for the community with this property.

We came in front of the Trustees at the September meeting prior to purchasing the property and the Trustees agreed that we needed to get a variance.

We attended a meeting in October with our variance request and the required public hearing. Our request was denied on a 2-1 vote with concerns raised about density.

We then appealed the decision at the November meeting and the Board of Trustees asked for more research and information. We have invested a great deal of time and money gaining an understanding of what the OWTS regulations entail and have included that information in this packet.

We trust that each of the Trustees will use this opportunity to understand all of the attached letters, reports and the application.

Clarification of Town of Marble and State of Colorado Regulations

While thoroughly combing through the sections in the Town of Marble and State of Colorado regulations on OWTS requirements, we discovered that we should be submitting an OWTS **repair application** instead of asking for a lot-size variance. This discovery was confirmed during discussions with Paul Rutledge. It is important to note that an OWTS repair permit does not relate to lot size, zoning or density.

In addition to our own research, we have hired an attorney, Tim Whitsitt, out of Carbondale for some advice on proceeding forward with our OWTS permit. Tim spoke with the Town Attorney, Kendall Bergemeister, regarding the best way to present our case for obtaining an OWTS. It was during this phone conversation between attorneys that Kendall recommended that we change our request from a lot variance to a repair application permit.

We were grateful to hear that the Town Attorney was in agreement with our findings that we should apply for a repair permit and not a variance.

OWTS Repair Permit

We are formally requesting a repair permit as the current OWTS is out of compliance with Town and State regulations. Our property has the required space available needed for a compliant system to be installed to repair the existing systems in place.

A repair permit has to be submitted within two days of receiving notice that the existing system is not in compliance. While we have not yet received an official inspection from the Town of Marble or an official notice that we are out of compliance, we want to do the right thing and get this out of compliant system repaired and functioning correctly.

SYSTEM COMPLIANCE

At the prior meetings the Trustees did not seem concerned that graywater from the kitchen sink and the outflow of the pit privy were in direct violation of the Town of Marble Regulations. We have included excerpts of the regulations here to help with that understanding. The free running graywater from the house and the pit privy are both failed septic systems.

GRAYWATER

As per the OWTS Town of Marble regulations, "Graywater use is only allowed under a local graywater control program...etc". See Section 86.6 Applicability, found on page 6 of Paul Rutledge's first letter "Regulatory Permitting Finding of Facts...". The Town of Marble does not have a graywater control program.

PIT PRIVY

According to the OWTS regulations, we are not allowed to improve on our pit privy and we are not allowed to dig a new hole location for a new pit privy. Our pit privy is not in compliance with current regulations. Our pit privy is a septic system that is not allowed within the Town of Marble and is not in compliance with current OWTS regulations.

As per the OWTS Town of Marble regulations, "The owner or occupant of a property on which an OWTS is not in compliance MUST obtain a repair permit from the local public health agency (LPHA). See section 7. Repair Permit. a. on page 4 of Paul Rutledge's letter "Regulatory Permitting Finding of Facts..." These regulations do not have provisions for minimum land area.

RECOMMENDATION

If a current developed property has room on the property for a current OWTS, and if said developed property has septic and/or graywater systems that are not in compliance with the current Town of Marble and Colorado State regulations, the Local Public Health Agency (which in this case is the Town of Marble Board of Trustees) must allow the property to bring the current systems up to current standards and regulations.

ATTACHMENTS:

- 1) Repair Permit Application from Lawrences, 9-page application
- 2) Sopris Engineering 10-page letter report "Regulatory Permitting Finding of Facts..."
- 3) Sopris Engineering 5-page design report "OWTS Application for Repair Permit"
- 4) Graywater general information 1-page report
- 5) Developed Non-conforming lots spread sheet with waste water systems
- 6) Variance - Trustee Requested Hardship information

January 3, 2020

Town of Marble Public Health Board
C/O Ron Leach,
Town of Marble
"Ron Leach" <leach@townofmarble.com >

RE: Town of Marble, Regulatory Permitting Finding of Facts in Regard to Existing Residential Facilities Onsite Wastewater Treatment System (OWTS), Lawrence property at 209 Hill Street, Marble, CO
SE Job No. 19187,

Dear Ladies and Gentleman:

This letter is in response to request for information and comments discussed at the Town Board of Trustees meeting, November 7, 2019, regarding the OWTS permit application denial appeal. This summary letter is being submitted along with select regulatory and existing conditions informational narratives for consideration as applicable. Findings of Fact in support of the property owner's request to the Town for issuance of an OWTS repair permit.

The subject property, at 209 Hill Street, Marble, CO, was legally platted and is an existing non-conforming residential property which was developed prior to annexation into the Town and prior to adoption of local or State land use and sanitary health codes. The developed property includes an existing plumbed dwelling, with existing graywater and pit privy systems, that have been continuously utilized for typical residential purposes and is therefore subject to all State and Local Public Health Agency, (LPHA) Regulations regarding the legal requirement that any maintained dwelling have adequate facilities for the sanitary management of sewage. Currently the existing sanitary systems, that service the dwelling and residential property use, are out of compliance with current regulations and are in need of upgrade under a OWTS repair permit that is required to be issued by the LPHA in compliance with the current Town of Marble OWTS Regulations as adopted from CDPHE Regulation 43 authorized by the State of Colorado statutory OWTS Act.

The existing graywater system servicing the dwelling is not in compliance with current CDPHE Regulation 86 and for continued use is required to be incorporated into an approved OWTS or upgraded under a use permit for the authorized usage of graywater, only if the LPHA has obtained State approval for a Graywater regulatory program. Specifically, Regulation 86 allows the LPHA to issue a graywater permit for special uses under specific design criteria that assumes the existence of an approved OWTS that has capacity to accept the graywater design flow and all other waste flow from the existing dwelling as necessary if the graywater system is not compliance with permitted usage.

The OWTS Act and Regulation 43 does not reference any minimum lot area size restriction requirements, however allowance is made to LPHA utilizing local land use codes, (LLUC) to prohibit or conditionally restrict new OWTS on undeveloped properties. The regulations specifically address the requirements for the LPHA to issue an OWTS repair permit for existing developed properties with usable dwellings and existing sanitary systems. The OWTS Act and associated Regulations provide the LPHA with broad flexibility to issue OWTS permits to upgrade existing systems to be in compliance with current regulations where necessary to protect the public health and environment without regard to lot area. Local land use codes, with respect to the intent of State and local OWTS regulation, are reserved for building permits for new development allowing the LPHA to prohibit a building permit for undeveloped properties that do not meet minimum lot size requirements. The LPHA is allowed to require additional design criteria for increased treatment levels on developed properties. Pursuant to regulations all existing non-compliant systems have to be upgraded with a minimum 2-bedroom capacity OWTS that includes a functioning soil treatment area (STA) if lot conditions allow for its placement in compliance with current regulations.

502 Main Street • Suite A3 • Carbondale, CO 81623 • (970) 704-0311 • Fax (970) 704-0313

SOPRIS ENGINEERING • LLC

civil consultants

Town of Marble, C/ O Ron Leach
Lawrence Property OWTS Permitting

SE Job No. 19187.

January 3, 2020

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Therefore based on our review of statute and applicable regulations it is the responsibility of the LPHA (Town of Marble Board of Health, aka Town of Marble Board of Trustees) to issue an OWTS repair permit for the replacement of the existing pit privy and graywater systems currently in use in order to bring the developed residential site into compliance with the current Town of Marble OWTS Regulation.

Attached are appendices that include select excerpts from statute, regulations with supporting narrative summaries that provide factual informational applicable to the LPHA permitting responsibilities, intent of regulations, evaluation of alternatives and protection of public health and the environment. Below is a list of various appendices attachments, presenting relevant Finding of Fact for consideration by the board.

List of Appendices

Appendix A- Provisions of Town of Marble OWTS Regulation, adopted pursuant to CDPHE Regulation 43
Excerpts of LPHA Responsibilities and implementation of approved OWTS Regulation.

Appendix B- Provisions of State graywater systems CDPHE Regulation 86

Appendix C- Summary Narrative of Existing lot and dwelling Conditions

Appendix D- Summary Narrative of Alternatives Considered for Subject Property.

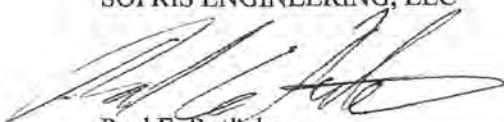
Appendix E- Summary Narrative of Minimum Lot Size Variance Request

Conclusions

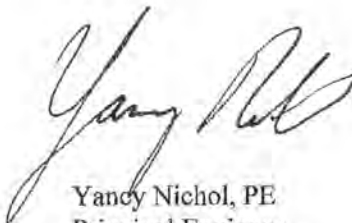
Based on our site assessment and review of applicable OWTS regulations the design and permitting of a OWTS, to replace the existing sanitary systems, is required to serve the existing development and reasonable dwelling/site improvements on the subject property. The current sanitation facilities are not in compliance with applicable Regulations and the issuance of an OWTS repair permit by the LPHA for a replacement OWTS is the only feasible alternative for this site specific condition. Sopris Engineering has performed preliminary calculations and created a conceptual site plan delineating the existing dwelling, sanitary facilities, site features and new replacement OWTS on the developed property that is generally similar in terms of size, physical conditions with existing infrastructure typical of numerous non-compliant developed properties within the Town. The proposed OWTS replacement will meet all regulatory requirements in the current Town of Marble OWTS Regulations and the State Regulation 43.

If you have any questions or need any additional information, please call.

Sincerely,
SOPRIS ENGINEERING, LLC



Paul E. Rutledge
Design Engineer



Yancy Nichol, PE
Principal Engineer

Appendix A- Provisions of Town of Marble OWTS Regulation, adopted pursuant to CDPHE Regulation 43

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, Water Quality Control Commission
REGULATION NO. 43 - ON-SITE WASTEWATER TREATMENT SYSTEM REGULATION
5 CCR 1002-43 43.1-Authority - This regulation is promulgated pursuant to the On-site Wastewater Treatment System Act, 25-10-101,

Excerpts: 43.3 Definitions

65. "Health officer" means the chief administrative and executive officer of the local public health agency, or the appointed health officer of the local board of health. The initial Health officer shall be the Town Clerk.

77. "Local board of health" means the Town of Marble Board of Trustees.

78. "Local public health agency" means the Town of Marble, which will oversee and administer a program of OWTS permitting and inspection within the Town.

92. "On-site wastewater treatment system" or "OWTS" and, where the context so indicates, the term "system", means an absorption system of any size or flow or a system or facility for treating, neutralizing, stabilizing, or dispersing sewage generated in the vicinity, which system is not a part of or connected to a sewage treatment works.

97. "Privy" means an above grade structure allowing for the disposal of excreta not transported by a sewer and which provides privacy and shelter and prevents access to the excreta by flies, rodents, or other vectors.

a. Pit privy – privy over an unlined excavation.

118. "Sewage" means a combination of liquid wastes that may include chemicals, house wastes, human excreta, animal or vegetable matter in suspension or solution, and other solids in suspension or solution, and that is discharged from a dwelling, building, or other establishment.

148. "Wastewater, domestic" means combination of liquid wastes (sewage) which may include chemicals, household wastes, human excreta, animal or vegetable matter in suspension or solution, or other solids in suspension or solution which are discharged from a dwelling, building or other structure.

SE COMMENT: The Existing Pit Privy and graywater systems, at the subject lot, fall under these general definitions however both systems are not in compliance with current regulations.

Excerpts: 43.4 Applicability

B. Permit Application Requirements and Procedures

1. Prior to installing, altering, or repairing a system, the applicant must obtain a permit from the local public health agency.

2. An applicant must submit a complete application that is consistent with section 43.4.B.3. to the local public health agency prior to installing, altering or repairing a system.

3. Minimum Permit Application Requirements:

SE COMMENT: "Applicant can meet all requirements for installation of a compliant OWTS"

7. Repair Permit

a. The owner or occupant of a property on which an OWTS is not in compliance must obtain a repair permit from the local public health agency. The applicant must apply for a repair permit..... after receiving notice that the system is not functioning in compliance with the OWTS Act or applicable regulations, or otherwise constitutes a nuisance or a hazard to public health or water quality.

SE COMMENT: "The old existing pit privy is not readily maintainable and is in disrepair. The gray water system does not have an acceptable means of absorption or dispersal. Both system conditions, in our professional opinion constitute a nuisance and possible hazard to public health or water quality".

8. A permit must be required for the expanded use of an OWTS. The OWTS must be replaced or modified to handle the increased design flow unless it is determined that the existing system is adequately designed and constructed for the higher design flow rate.

And;

9. Regulations of the local board of health must include provisions that provide for review by the local board of health of applications denied by the local public health agency when requested by an applicant.

SE COMMENT: "The applicant has made due notice to the LPHA to obtain a permit and the existings systems need to be replaced in order to handle minimum design flow; The continued discussion of this issue, requested by the applicant, is based on the original denial of an OWTS permit for the subject property by the previous board's action."

C. Determination

1. A local public health agency must determine whether the information provided in the permit application, site and soil evaluations, assumptions and calculations, and design of the proposed OWTS are in compliance with the requirements of the OWTS Act and regulations adopted pursuant thereto. If the submittal is determined to be in compliance, authorization to begin installation may be given.

SE COMMENT: "This section provides summarizes the authority and responsibility of the LPHA to review and issue an OWTS permit for the subject property based on the information provided in the application to be submitted."

H. Primary Enforcement Responsibility

1. The primary responsibility for enforcement of the provisions of the OWTS Act and the regulations adopted under said article will lie with the local board of health.

2. In the event that a local board of health fails to administer and enforce the provisions of said section and the regulations adopted under the OWTS Act, the Division may assume such functions of the local public health agency or local board of health as may be necessary to protect the public health and environment. 25-10-110, C.R.S.

SE COMMENT: "This section summarizes the responsibility of the LPHA and division to enforce the provisions and intent of the regulations adopted under the OWTS Act."

N. Variance Procedure

1. General

a. The purpose of this section is to provide a procedure for local public health agencies to consider variances from the design and/or siting requirements of the OWTS regulations. A local board of health may adopt these procedures or more stringent procedures, but is not required to adopt any variance procedure. Variances may only be included in permits issued by those local public health agencies which formally adopt and implement a state approved variance procedure.

SE COMMENT: "The entire section summarizes the procedures for an applicant's request for variances from the design and/or siting requirements of the OWTS regulations only. The regulations do not have provisions for minimum land area. Therefore this section is not applicable to this situation where the applicant is not requesting variances for design and/or siting requirements to construct a compliant OWTS under the regulations adopted under the OWTS Act."

O. General Prohibitions; Section 25-10-112, C.R.S.

4. No person shall construct or maintain any dwelling or other occupied structure which is not equipped with adequate facilities for the sanitary disposal of sewage.

SE COMMENT: "The issuance of an OWTS permit is necessary for the applicant to maintain the existing dwelling and is required for other similar non-compliant properties to maintain the same."

Appendix B- Provisions of State graywater systems CDPHE Regulation 86.

5 CCR 1002-86 REGULATION NO. 86GRAYWATER CONTROL REGULATION

86.1 Authority

This regulation is promulgated pursuant to the Colorado Water Quality Control Act (CWQCA) sections 25-8-101 through 25-8-703, C.R.S. In particular, it is promulgated under section 25-8-205(1)(g), C.R.S.

86.2 Purpose and Scope

A. Purpose

Graywater is expected to carry human pathogens with various risk levels and pathways that have the potential to be dangerous to public health. Therefore, the purpose of this regulation, as authorized by section 25-8-205(1)(g), is to describe requirements, prohibitions, and standards for the use of graywater for nondrinking water purposes, to encourage the use of graywater, and to protect public health and water quality.

B. Scope

This regulation establishes the allowed users and allowed uses of graywater within the state of Colorado; establishes the minimum state-wide standards for the location, design, construction, operation, installation, modification of graywater treatment works; and establishes the minimum ordinance or resolution requirements for a city, city and county, or county that chooses to authorize graywater use within its jurisdiction.

SE COMMENT: "The Regulation Provides guidance and specific requirements for the use, design and operation of Graywater Systems. The existing system does not meet the requirements and is not permitted in compliance with the regulation."

86.6 Applicability

A. All graywater uses and graywater treatment works must comply with the minimum requirements of this regulation as set forth in a local graywater control program.

1. Graywater treatment works may only be installed and operated within the jurisdiction of a city, city and county, or county with a local graywater control program.

B. Graywater use is only allowed under a local graywater control program and must meet the local requirements adopted pursuant to these regulations. Unauthorized graywater use and discharges are prohibited.

SE COMMENT: "The existing system does not comply with the minimum requirements of the regulation. To the best of our knowledge the Town has not adopted a State approved graywater control program or usage."

86.8 Definitions

14)"Graywater" means that portion of wastewater that, before being treated or combined with other wastewater, is collected from fixtures within residential, commercial, or industrial buildings or institutional facilities for the purpose of being put to beneficial uses. Sources of graywater are limited to discharges from bathroom and laundry room sinks, bathtubs, showers, and laundry machines. Graywater does not include the wastewater from toilets, urinals, kitchen sinks, dishwashers, or nonlaundry utility sinks.

(15)"Graywater treatment works" means an arrangement of devices and structures used to: (a) collect graywater from within a building or a facility; and (b) treat, neutralize, or stabilize graywater within the same building or facility to the level necessary for its authorized uses.

(16) "Indirect connection" means a waste pipe from a graywater treatment works that does not connect directly with the closed sewerage system, but that discharges into the closed sewerage system through an air break or air gap into a trap, fixture, receptor, or interceptor.

SE COMMENT: "The graywater system is connected to the kitchen sink that is not allowable."

86.9 Administration

B. Minimum Requirements for a Local Graywater Control Program

1. The local city, city and county, or county that chooses to authorize graywater use within its jurisdiction must adopt an ordinance or resolution which meets the following minimum requirements:

a. Require compliance with the minimum requirements of this regulation.

86.10 Graywater Use Categories

General: The graywater use categories allowed are defined below. A single facility may have multiple graywater treatment works as long as all applicable use and design requirements are satisfied.

A. Category A: Single family, subsurface irrigation

Category A graywater use must meet the following:

1. Allowed users: Single family.

2. Allowed graywater sources: Graywater collected from bathroom and laundry room sinks, bathtubs, showers, and laundry machines.

3. Allowed uses: Outdoor, subsurface irrigation within the confines of the legal property boundary.

86.12 Graywater Treatment Works - Design Criteria

A. Design criteria for all graywater treatment works. The following minimum design criteria are required for all graywater treatment works. All graywater treatment works must:

1. Meet all design requirements of this regulation and meet any additional design requirements of the Colorado Plumbing Code.

d. Have an overflow line... that is indirectly connected to the closed sewerage system (OWTS);

7. Not be used as a factor to reduce the design, capacity or soil treatment area requirements for OWTS or domestic wastewater treatment works. 8 Have any wastewater from graywater treatment works (e.g., filter backwash water) be properly contained and disposed into a closed sewerage system or an approved Underground Injection Control (UIC) well.

SE COMMENT: "The existing graywater system does not have any direct or indirect connections to an OWTS as required. The use of a graywater system does not relieve the property of having a functional compliant OWTS designed for the minimum 2- bedroom capacity."

Appendix C- Summary Narrative of Existing lot and dwelling Conditions

Existing developed Lawrence property at 209 Hill Street, Marble, CO

Existing Conditions and Previous OWTS Site Work

The 10,400 S.F. site has an existing 2 level dwelling and other infrastructure improvements in place since 1941 including a pit privy and graywater system. Sopris Engineering was engaged by the prior owner's in 2014 to prepare an updated OWTS plan that was submitted to the town for installation of an OWTS designed in compliance with the current regulation at the time.

There are no alternatives to expand this site's property boundaries that are bounded by Town of Marble right-of-ways with Hays Street to the north, 3rd Street to the west and Hill St. to the south and the County line along the easterly property line.

The site has an existing dwelling and other infrastructure improvements in place since 1941. The improvements include a WPA (Federal government sponsored Work Projects Administration) built pit privy (1941) that is 78 years old and long over due to be upgraded to a current OWTS system, Gray water from the house is drained outside on the ground. This property was annexed by the Town of Marble in 1973 with the existing, dwelling, pit privy and gray water system in place.

A permit to build an engineer designed septic system with leach field was issued in 1995 and a concrete tank was installed. Due to the death of the owner, the system was not completed at that time. Previous attempts were made to update the 1995 permit in 2015 based on the 2014 upgraded OWTS design plan prepared by Sopris Engineering. In 2015, the heirs contacted the Town to complete the construction of the septic system and reapply, if necessary, for a new permit.

Sub Surface Soil Conditions

Subsurface soil investigations and USDA soil texture method will be performed by Sopris Engineering in the area of the proposed treatment field. The soils below 4-8 inches of topsoil consist of slightly clayey loamy sand to sandy silt loam with moderate granular to slightly blocky structure with some cobbles and gravels. This soil type has an effective loading rate for conventional soil treatment of 0.6 gal/S.F./day for a level 1 conventional treatment system. For treatment level 3 the loading rate is 1.0 gal/S.F./day with use of primary sand.

Proposed OWTS Repair/Replacement

A new OWTS can be designed and installed in compliance with the State Regulation 43 and the adopted Town of Marble On-Site Wastewater Treatment System Regulations. Therefore with regard to application for an OWTS repair permit a request for a variance is not based on any specific OWTS design criteria but rather due to the local land use code language's prohibition of new OWTS permitting based on minimum lot size. Pursuant to Regulation, the Local Public Health Agency, as the applicable regulatory entity, is responsible for issuing an OWTS repair permit for non-compliant systems.

A replacement OWTS, meeting all applicable setbacks can be constructed on residential property. An OWTS can be designed based on site specific conditions, appropriate regulatory applicability and design criteria under an OWTS repair permit. All required Regulation 43 design criteria can be satisfied on the property supporting the fact that a variance to minimum lot size will not result in a greater risk to public health or the environment than a system placed on a minimum area compliant lot.

Appendix D- Summary Narrative of Alternatives Considered for Subject Property.

43.10 Design Criteria – Soil Treatment Area

I. Repairs

1. When space is not available or if there are other site limitations that preclude other soil treatment area options for OWTS repairs, wide beds, deep gravel trenches, deep beds and seepage pits may be considered for repairs only. Other options are vaults or higher level treatment systems, if the local board of health permits them.

SE COMMENT: "The regulations generally imply in all cases that a soil treatment area (STA)is required for any new, repair or replacement OWTS when a site has suitable soils and can accommodate adequate field sizing."

43.12 Design Criteria – Other Facilities

B. Seepage Pits (Including Pit Privies)

1. The construction of new seepage pits for the treatment and dispersal of on-site wastewater on new sites is prohibited unless:
 - a. A trench or bed system will not meet the design, sizing or setback requirements of this regulation on the proposed site;

C. Vaults Other Than Vault Privies

1. Vaults for full time use in new construction are prohibited where a property can accommodate an OWTS with a soil treatment area.
3. Vaults for full time use may be permitted when a failing OWTS cannot be replaced.
4. Vaults may be permitted for limited use occupancy on a property which cannot accommodate an OWTS with soil treatment area.
5. A vault may be permitted if the facility is on land where the installation of an OWTS with soil treatment area is not permitted.
6. Vaults may be permitted for systems where some of the wastewater flows are separated, such as toilet wastes only, into a vault. The portion not retained in the vault must be treated in an OWTS sized per the requirements of this regulation.

SE COMMENT: "The regulations generally imply in all cases that any alternative system in lieu of a soil treatment area (STA)is prohibited for any new, repair or replacement OWTS when a site has suitable soils and can accommodate adequate field sizing for a compliant STA."

E. Incinerating, Composting and Chemical Toilets

1. The local board of health may permit incinerating, composting and chemical toilets. The use of an incinerating, composting or chemical toilet will not reduce the required size of the OWTS as noted in section 43.8.A.

SE COMMENT: "The regulations generally allow for non-discharging types of toilets if desired, however their usage does not allow any reduction in the sizing or alternative to installing a required soil treatment area (STA)."

Appendix E- Summary Narrative of Minimum Lot Size Variance Request

It is understood that the Town has instructed the applicant's to request that a variance be granted to allow the installation of a replacement OWTS on the property that has been deemed non-compliant per local Town of Marble Land Use Code based on minimum lot area required.

Conclusions

Based on our site assessment and review of applicable OWTS regulations the design and construction of a replacement OWTS is feasible to serve the existing development and reasonable dwelling/site improvements on the subject property. Sopris Engineering has performed calculations and created a design plan delineating the existing dwelling, driveway and new OWTS on the developed property that is generally similar in terms of size, physical conditions and existing infrastructure as numerous properties within the Town. The proposed OWTS will meet all regulatory requirements in the current Town of Marble OWTS Regulations and the State Regulation 43.

Findings

With regard to Section 4.Application Requirements and Procedures, Sub Section O Section 3 a., the request for a variance is not based on any specific OWTS design criteria but rather due to the regulatory minimum lot size only.

In regard to Section 3 b., An OWTS can be designed based on the current design parameters for a 3 bedroom capacity residential property. The site allows for the placement of a treatment level 3 system being a 100 feet from any existing well and also meeting other applicable setbacks requirements. The sub soils do not have a limiting condition. An OWTS can be designed based on site specific conditions and appropriate design to effectively treat wastewater from the existing facilities with additional capacity for future improvements. All required Regulation 43 design criteria can be satisfied on the property supporting the fact that a variance to minimum lot size will not result in a greater risk to public health or the environment than a system placed on a minimum area compliant lot.

In regard to Section 3 c., no alternatives are feasible for consideration since a compliant OWTS can be installed meeting the regulatory design criteria.

In regard to Section 3 e.f., the property is bounded on three sides by the pre-existing platted Town of Marble right of ways and a private property to the east at the Town/County boundary line. Therefore no opportunities exist to expand the lot area. The adjacent properties are developed in the vicinity and elsewhere in the town that have similar non-compliant lot area characteristics. The removal of the existing pit privy, graywater system and installation of a replacement OWTS will mitigate potential risk to public health or the environment.

In regard to Section 4 a.b.c.d., the granting of the variance does not compromise compliance with the OWTS regulations or have pose any adverse effect to Public safety and welfare. No variance from the OWTS design criteria is being requested or other applicable jurisdictional standard except for the local land use code minimum lot size requirement that is generally assumed by State Regulations to be applicable to new development only.

In regard to Section 5 a., the property can accommodate a conforming OWTS. The other provisions of this section are not applicable to this request. A new OWTS can be approved and permitted in compliance with the State Regulation 43 and the adopted Town of Marble On-Site Wastewater Treatment System Regulations under an OWTS repair permit. Therefore with regard to Section 4.Application Requirements and Procedures, Sub Section O. 6.Variances for Repair of Failing Systems is not applicable to this application since the repair or upgrade would not result in encroachment on minimum distances or any other design criteria. The provisions within Section 6 are not applicable to this request.

OWTS Application

Town of Marble
322 W. Park St
Marble, CO 81623

Type of Application (check one): ☒ OWTS Repair or Alteration

Applicant Information (owner of property):

Name: Eric A. & Christine M. Lawrence

Mailing Address: 7959 HWY 133,

City: Carbondale State: CO Zip: 81623

Daytime Phone: _____ Evening Phone: _____ Cell Phone: 970 948 6878

Fax: _____ Email Address: rick@netoasis.com

Licensed OWTS System Contractor Information:

Name: Pifco

Mailing Address: 2017 154 Road

City: Glenwood Springs State: CO Zip: 81601

Office Phone: 704 0757 Cell Phone: 366 0595

Fax: _____ Email Address: Matthew Piffer [mailto:mpiffer88@gmail.com]

OWTS System Designer Information:

Name: Paul Rutledge

Mailing Address: 502 E. Main St.

City: Carbondale State: CO Zip: 81623

Office Phone: 704 0311 Cell Phone: _____

Fax: 704 0313 Email Address: prutledge@sopriseng.com

Building Contractor (if applicable):

Name: N/A

Mailing Address: _____

City: _____ State: _____ Zip: _____

Office Phone: _____ Cell Phone: _____

Fax: _____ Email Address: _____

Agent for Applicant (if person requesting OWTS Permit is other than Applicant or Licensed OWTS Contractor):

Name: N/A

Mailing Address: _____

City: _____ State: _____ Zip: _____

Office Phone: _____ Cell Phone: _____

Fax: _____ Email Address: _____

Parcel Information:

Legal Description of Parcel: PARCEL NUMBER 291726107009 LOTS 1,2,3 BLK C
MASONS ADDN MARBLE #614793 #637526

Street Address: 209 HILL ST, MARBLE

Parcel Size: 0.24 ac 10,400 (square-feet / acres) (circle one)

You must attach a copy of the recorded deed conveying the subject property to the Applicant.

Project Information:

X Residential Commercial (check one)

Description of existing and proposed land uses of the property to be served: Existing
residential structure with pit privy and existing septic tank, gray water system, existing Town
water service, Existing driveways, Existing irrigation improvements, Existing utilities.

Square footage of structure(s) served: 630 S.F. +/- _____

If Project is residential:

Number of bedrooms: 2

Number of Bathrooms: 1

Number of Kitchen Facilities: 1

Dishwashers: 0

Garbage Disposals: 0

Clothes Washers: 1

If Project is commercial, in addition to the applicable information requested above, describe the number and type of improvements that will drain into the OWTS system, the estimated number of persons who will use the improvements, and hours and seasons of operations: N/A

Proposed or existing water source:

0 Well, Permit No. _____

x Marble Water Company tap

0 Cistern

0 Other: _____ (describe)

Copy of well permit or proof of water tap, as applicable, shall be submitted with this Application.

The following information must also be included with the OWTS Application:

1. Report from Site and Soil Evaluation (see Section 5, below);
2. Current Improvement Survey Plat or Improvement Location Certificate for the subject property;
3. Design Document (see Section 5 of the Town's OWTS Regulations) stamped by a licensed Engineer, including a legible, scaled, accurate site plan which shows pertinent physical features on subject property, and on adjacent properties, as noted in Table 7-1 of the Town's OWTS Regulations; and
4. Other information, data, plans, specifications and tests as required by local public health agency. When specific evidence suggests undesirable soil conditions exist, additional hydrological, geological, engineering or other information provided by a professional engineer or geologist may be required to be submitted by the applicant.
5. Letter of authorization to act on Applicant's behalf (if agent is obtaining permit on behalf of Applicant)

The following fees must be submitted by an applicant at the time the permit application is submitted to the Town:

1. A non-refundable application fee of **\$100**
2. A permit fee of \$900 for new installations and **\$200** for repairs and alterations to cover the cost of inspections and other services performed by the Town. Any portion of the permit fee that is not used to cover out-of-pocket expenditures by the Town in reviewing the application shall be refunded if the permit is not issued.
3. A surcharge fee of **\$23**, of which the Town shall retain three dollars and twenty dollars shall be transmitted to the state treasurer, who shall deposit that sum in the water quality control fund created in section 25-8-502(1)(c), C.R.S.

The following steps must be completed to obtain final approval of a permit:

1. A site and soil inspection is required prior to application submittal. The applicant shall contact the Town to schedule an on-site meeting.
2. The Town must determine whether the information provided in the permit application, site and soil evaluations, assumptions and calculations, and design of the proposed OWTS are in compliance with the requirements of the OWTS Act and regulations adopted pursuant thereto. If the submittal is determined to be in compliance, authorization to begin installation may be given.
3. A final site inspection after the system has been placed in the grounds and the elements connected, but before it has been backfilled or placed into use, is required. The applicant

or the systems contractor must provide the Town and the engineer, if engineer-designed, with notice that the progress of the work has been sufficiently completed to allow inspections to determine if all work has been performed in accordance with the permit requirements and to determine compliance of the system with the OWTS Act and the regulations adopted thereunder.

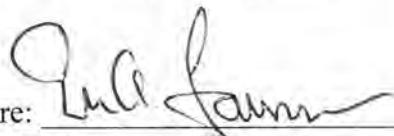

4. Final approval of the permit by the Town is contingent upon:

- a. Receipt of letter from the engineer certifying construction of system as designed, if engineer-designed;
- b. Receipt of an as-built "Record" drawing; The record drawing shall be drawn to scale and include a graphic scale bar. The drawing shall show the locations and descriptions of the OWTS components, as installed. Applicable information relative to locating and maintaining the OWTS components shall be included.
- c. Final inspection by the Town, prior to backfilling, confirming that the OWTS was installed according to the permit requirements and regulations or variances to the regulations; and
- d. Identification of the system contractor.

In signing this application, I acknowledge that:

- I have received a copy of the Town of Marble On-Site Wastewater Treatment System Regulations
- Any permit issued will expire one year after issuance if construction has not yet commenced;
- Any change in plans or specifications will invalidate the permit unless approved in writing by the Town of Marble;
- In the event that a permit is issued, installation of the OWTS must be in accordance with the permit, and the Town's designated representative shall be allowed to make a final inspection of the OWTS prior to backfill.
- The issuance of a permit and specifications of terms and conditions therein shall not constitute assumption of liability, nor create a presumption that the local public health agency or its employees may be liable for the failure or malfunctioning of any system. Permit issuance shall not constitute a certification that the system, the equipment used in the system, or any component used for system operation will ensure continuous compliance with the provision of the OWTS Act, the regulations adopted thereunder, or any terms and conditions of a permit.

Applicant Signature:

Date:

1-7-2020

1-7-2020

MEMBERSHIP CERTIFICATE

Location BLOCK C MASON'S ADDITION LOTS 1, 2 AND 3

THIS CERTIFIES that ERIC AND CHRIS LAWRENCE

is a member of THE MARBLE WATER COMPANY, which membership shall be transferable only on the books of the corporation in person or by duly authorized attorney upon surrender of this membership certificate properly endorsed.

IN WITNESS WHEREOF, the said corporation has caused this Certificate to be signed by its duly authorized officers and sealed with the seal of the Corporation this 11th day of September 2009.

(SEAL)

L. Zentmeyer

Secretary

President

ERIC LAWRENCE
CHRISTINE MARRIOTT-LAWRENCE
 7959 HWY 133 PH. (970)983-3366
 CARBONDALE, CO 81623-0463

5650
 62-340/1021

1/8/2020
 Date

Pay to the Order of Town of Marble \$ 100.00
one hundred 00 Dollars

 **Alpine Bank**
 0360 Highway 130
 Carbondale, CO 81623
 Alpine Info-Line/Funds Verification • (888)425-7463

For Repair application Chris Lawrence

⑆102103407⑆ 4040204463⑈ 5650

ERIC LAWRENCE
CHRISTINE MARRIOTT-LAWRENCE
 7959 HWY 133 PH. (970)983-3366
 CARBONDALE, CO 81623-0463

5651
 62-340/1021

1/8/2020
 Date

Pay to the Order of Town of Marble \$ 200.00
two hundred 00 Dollars

 **Alpine Bank**
 0360 Highway 130
 Carbondale, CO 81623
 Alpine Info-Line/Funds Verification • (888)425-7463

For permit fee Chris Lawrence

⑆102103407⑆ 4040204463⑈ 5651

ERIC LAWRENCE
CHRISTINE MARRIOTT-LAWRENCE
 7959 HWY 133 PH. (970)983-3366
 CARBONDALE, CO 81623-0463

5652
 62-340/1021

1/8/2020
 Date

Pay to the Order of Town of Marble \$ 23.00
twenty-three 00 Dollars

 **Alpine Bank**
 0360 Highway 130
 Carbondale, CO 81623
 Alpine Info-Line/Funds Verification • (888)425-7463

For surcharge fee Chris Lawrence

⑆102103407⑆ 4040204463⑈ 5652

SPECIAL WARRANTY DEED

THIS DEED, made this 12th day of September, 2019, between

Craig A. Hansen and Linda S. Hansen

whose address is 614 S. Limuel Circle, Wichita KS 67235

Eric A. Lawrence

whose address is 7959 Hwy 133, Carbondale, CO 81623, GRANTEE(S):

WITNESS, that the grantor(s), for and in consideration of the sum of One Hundred Thirty Five Thousand and 00/100 Dollars (\$135,000.00), the receipt and sufficiency of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell, convey and confirm unto the grantee(s), grantee's heirs and assigns forever, **IN SEVERALTY**, all the real property, together with improvements, if any, situate, lying and being in the County of Gunnison and State of Colorado, described as follows:

Lots 1, 2 and 3, Block C, Mason's Addition to the Town of Marble, Colorado, as described in Survey Plat recorded in the office of the Gunnison County Clerk and Recorder March 21, 1975 in Book 483 at Page 305, County of Gunnison, State of Colorado.

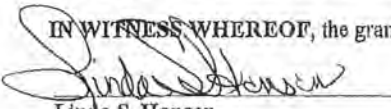
also known by street and number as: 209 Hill Street, Marble, CO 81623

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appurtenant, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the grantor, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances;

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the grantee, grantee's heirs and assigns forever. The grantor(s), for the grantor, grantor's heirs, and personal representatives or successors, does covenant and agree that grantor shall and will **WARRANT AND FOREVER DEFEND** the above-bargained premises in the quiet and peaceable possession of the grantee, grantee's heirs and assigns, against all and every person or persons lawfully claiming the whole or any part thereof, by, through or under the grantor, except for general taxes for the current and subsequent years, and except easements, covenants, conditions, restrictions, reservations, and rights of way of record, if any; subject to Statutory Exceptions as defined in C.R.S. §38-30-113, Revised.

The singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

IN WITNESS WHEREOF, the grantor has executed this deed on the date set forth above.


Linda S. Hansen


Craig A. Hansen



SPECIAL WARRANTY DEED -

1202150
September 9, 2019
9:52 AM

SPECIAL WARRANTY DEED

THIS DEED, made this 12 day of September, 2019, between

Eric A. Lawrence

whose address is 7959 Hwy 133, Carbondale CO 81623, GRANTOR(S), and

Eric A. Lawrence and Christine Lawrence, Joint Tenants

whose address is 7959 Hwy 133, Carbondale, CO 81623, GRANTEE(S):

WITNESS, that the grantor(s), for and in consideration of the sum of Ten and 00/100 Dollars (\$10.00), the receipt and sufficiency of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell, convey and confirm unto the grantee(s), grantee's heirs and assigns forever, AS JOINT TENANTS, all the real property, together with improvements, if any, situate, lying and being in the County of Gunnison and State of Colorado, described as follows:

Lots 1, 2 and 3, Block C, Mason's Addition to the Town of Marble, Colorado, as described in Survey Plat recorded in the office of the Gunnison County Clerk and Recorder March 21, 1975 in Book 483 at Page 305, County of Gunnison, State of Colorado

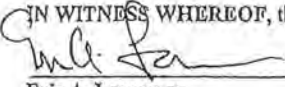
also known by street and number as: 209 Hill Street, Marble, CO 81623

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appurtenant, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the grantor, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances;

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the grantee, grantee's heirs and assigns forever. The grantor(s), for the grantor, grantor's heirs, and personal representatives or successors, does covenant and agree that grantor shall and will WARRANT AND FOREVER DEFEND the above-bargained premises in the quiet and peaceable possession of the grantee, grantee's heirs and assigns, against all and every person or persons lawfully claiming the whole or any part thereof, by, through or under the grantor, except for general taxes for the current and subsequent years, and except easements, covenants, conditions, restrictions, reservations, and rights of way of record, if any; subject to Statutory Exceptions as defined in C.R.S. §38-30-113, Revised.

The singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

IN WITNESS WHEREOF, the grantor has executed this deed on the date set forth above.

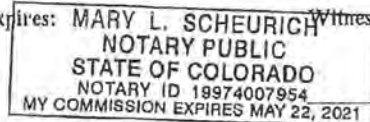

Eric A. Lawrence

STATE OF: Colorado

COUNTY OF: Garfield

The foregoing instrument was subscribed and sworn to before me this 12th day of September, 2019 by Eric A. Lawrence.

My Commission expires: MARY L. SCHEURICH Witness my hand and official seal.




Notary Public



SPECIAL WARRANTY DEED -

1202150
September 12, 2019
8:13 AM

January 3, 2020

Town of Marble Public Health Board
C/O Ron Leach,
Town of Marble
"Ron Leach" <leach@townofmarble.com >

RE: Design Report, On-site Wastewater Treatment System (OWTS), Application for Repair Permit,
Lawrence property at 209 Hill Street, Marble, CO
SE Job No. 19187, Parcel No: 2917-261-07-009.

Dear Ladies and Gentleman:

This letter report presents the applicable findings in regard to the design and construction of an Onsite Wastewater Treatment System (OWTS) to repair/replace the existing systems at the above referenced Site, in support of your OWTS repair permit application to the Town of Marble. The proposed site improvements are limited to the OWTS replacement only to serve the existing 2-bedroom residence shown on the Site Plan prepared by SE. The existing non-compliant pit privy and graywater system will be abandoned.

The OWTS design is based on our evaluation of the site conditions with information provided by others for use in obtaining a OWTS repair permit. We have evaluated the existing site conditions with respect to the operation and installation of a OWTS in accordance with the Town of Marble OWTS Regulations and State of Colorado Regulation 43. Based on the physical site features, soils, and existing building structure, we have prepared an OWTS design plan with construction details. The OWTS design and construction recommendations with specifications are delineated on the civil design plans, C1- OWTS SITE PLAN and Details, dated 01-03-2020, by Sopris Engineering.

Existing & Proposed Site Conditions

The subject property, at 209 Hill Street, Marble, CO, was legally platted and is an existing non-conforming residential property which was developed prior to annexation into the Town and prior to adoption of local or State land use and sanitary health codes. The developed property includes an existing plumbed dwelling, with existing graywater and pit privy systems, that have been continuously utilized for typical residential purposes and is therefore subject to all State and Local Public Health Agency, (LPHA) Regulations regarding the legal requirement that any maintained dwelling have adequate facilities for the sanitary management of sewage. Currently the existing sanitary systems, that service the dwelling and residential property use, are out of compliance with current regulations and are in need of upgrade under a OWTS repair permit that is required to be issued by the LPHA in compliance with the current Town of Marble OWTS Regulations as adopted from CDPHE Regulation 43 authorized by the State of Colorado statutory OWTS Act.

OWTS Design Criteria and Sizing

Based on our findings the design and installation of an engineered OWTS with enhanced treatment is feasible in accordance with applicable OWTS Regulations. The existing residential has two bedrooms currently served by an existing pit privy and non-compliant graywater system in need of replacement due to age and discharge prohibitions. The system is designed based on the current design criteria and the design criteria approved for the use of a pressure dosed sand filter (SF) system. The design is in compliance with the current Regulations with area

502 Main Street • Suite A3 • Carbondale, CO 81623 • (970) 704-0311 • Fax (970) 704-0313

SOPRIS ENGINEERING • LLC

civil consultants

calculations based on the LTAR loading rate for primary ASTM-33 filter sand per a minimum equivalent 3-bedroom design flow capacity.

Design recommendations include the continued use of an existing 1,000 gallon 2-compartment concrete septic tank, the installation of a new 500-gallon dosing tank with a 24-inch ribbed PVC riser equipped with an Orenco Systems simplex high head pump in a Biotube vault with associated piping and controls. We recommend the use of a full pressure dosed Sand Filter (SF) system to provide good secondary treatment performance in the native soils on the limited area site. The SF field will consist of a single bed installed to provide for equal pressure distribution of effluent across a 450 S.F. treatment/absorption SF field with 36-inches of filter sand below gravelless chamber spray shield units. The effluent will be dosed across the three distribution rows via an individual custom perforated pressure distribution pipe running the length of each 38 feet by 12 feet sand filter bed.

Design Calculations OWTS

Installation of an OWTS with a minimum 3-bedroom capacity,

From County adopted State Regulation 43:

Minimum population based on 3 bedrooms = 6 persons.

First 3 bedrooms (2 persons/bedroom) Over 3 bedrooms (1 person per bedroom)

Gallons per day per person = 75 gal/person/day, No peaking factor

Max. Design flow (Qd)gallons/day = (# of people) x (avg. flow)gal/person/day.

Design flow Qd = $6 \times 75 = 450$ gpd

Septic Tank Design: Continue use of the existing 1000 gallon, two compartment septic tank with a 500-gallon concrete dosing tank with an Orenco bio-tube simplex high head pump dosing assembly.

Sub Surface Conditions and Testing

Subsurface soil investigations and USDA soil texture method tests were performed by Sopris Engineering on September 19, 2019. The soils in the area of the proposed absorption field were sampled and characterized by application of the USDA soil texture method test. The soils were tested to determine the hydraulic loading rate and to confirm the appropriate absorptive surface level suitable for an intermittent sand filter treatment system in native soils. The soils below 3 to 6 inches of topsoil consist of medium dense sandy silt loam material to 1.5 to 8 feet below the surface. The soil appeared to be consistent in the 8' deep profile pit.

The native soils sampled from 2-3 feet below the surface are characterized as a soil type 2 consisting of sandy silt loam texture with moderate granular structure. This soil has an effective loading rate for conventional soil treatment of 0.6 Gal/S.F./day for a level 1 conventional treatment system. Due to limited area and to provide optimal treatment an intermittent sand filter is recommended. No free water was encountered in excavations on site. Groundwater levels are expected to be below 10 feet from the existing surface grades. The soils are suitable for the installation of the sand filter treatment bed system that will be fully pressure dosed.. An additional soil evaluation will be performed during construction to verify the soils in the proposed field excavation.

Intermittent Sand Filter Treatment Unit/ Absorption System Design

The treatment/absorption field is designed based on utilizing the effective Long Term Acceptance Rate (LTAR) for an intermittent sand filter treatment system utilizing pressure dosed distribution laterals and gravelless chamber units as spray shields providing level 3 treatment prior to infiltration into the native soils. The new treatment system will consist of a fully pressure dosed sand filter Treatment bed System with a 36-inch layer of primary filter sand (ASTM-33, "washed ASTM-36 Concrete sand").

Long Term Acceptance Rate (LTAR)

Considering the application of the new state regulation 43:

Receiving Wastewater Treatment Level 1; loading rate for primary sand filter material is (1.0 gal./S.F./day) for the minimum 36" depth of treatment media; Loading factors; (Table 10-2, pressure dosed application bed = 1.0)

$$A(sf) = Qd \therefore A = \text{Area};$$

LTAR

$$LTAR = 1.0 \text{ Gal/S.F./day} - \text{primary ASTM-33, "Washed Concrete sand"}$$

$$Qd = \text{flow (gal/day)} = 450 \text{ gpd}$$

$$L.F.1=1.0 \text{ pressure dosing}$$

$$A(sf) = \frac{450 \text{ gpd} \times 1.0}{1.0 \text{ Gal/S.F./day}} = 450 \text{ S.F.}$$

Install a single 38' by 12' sand filter bed. Excavate the bed to a maximum 4.5 depth below finish grade. Scarify surface and backfill with 36-inches of ASTM-33, "Washed Concrete sand". Typical for each bed, install 3 runs of custom perforated distribution laterals on top of sand layer and cover with 36 Quick-4 chambers in 3rows with 8 chamber units per row for use as pressure dose spray shields, as delineated on the plan. The bed will be dosed from the simplex high head distribution pump system installed in the dosing pump tank.

The standard Quick 4 chamber spray shields shall be installed over the top of the sand on 4 foot centers and backfilled with a minimum 12-inch depth of cover. Filter fabric shall be placed over the chambers and the entire extents of the sand filter bed. The slightly mounded field shall be constructed with final surface grading at a minimum 6-inches above the up gradient surface grades with a minimum 3-inch topsoil layer placed over the field surface.

The chamber rows shall be completed with standard end caps installed at both ends. A piezometer monitoring well pipe riser with threaded cap will be installed near a corner of the field and be extended down to the excavated surface depth at the bottom of the placed sand.

Effluent Distribution System

The OWTS field shall be fully pressure dosed along the entire length of the distribution rows. An Orenco Systems Bio Tube pump vault system will be installed with an effluent screen in the pump basin adjacent to the septic tank. The pump system shall incorporate a single high head pump. The simplex pump assembly will demand dose effluent through a single 1.25-inch diameter PVC transport pipe from the pump assembly and connect to manifold pipes that connects to the three custom perforated pipes at the head of the bed. The 1.25" discharge transport pipe shall be installed with a minimum 2.5% continuous slope to allow for drainage of the pipe.

The effluent will be equally pressure dosed through each 1.25-inch custom perforated distribution lateral running the length of the treatment bed installed on top of the sand filter layer. The pipe will have 3/16-inch orifices drilled every 2.0 feet oriented upward to spray against the interior chamber unit that will broadcast the effluent onto the sand surface. The first and last orifice will be drilled and oriented downward with an orifice shield to allow drainage of the line. Individual 1.25" ball valves will be installed at the end of each perforated distribution lateral centered below one of the pair of end cap vertical inspection port penetrations at the terminal end of the field. Two vertical 4-inch inspection ports will be installed from the pair of end cap inspection port penetrations at the terminal end of the field and one 4-inch inspection port will be installed from either end cap penetration at the head of the field. All inspection ports shall extend a minimum 3-inches above the finish grade and be topped with a treaded cap.

Pump operations shall be controlled by a wall mounted exterior control panel in direct line of site with the tank. Automatic float switches for on, off and high water with alarm activation shall be installed on a dedicated PVC float tree. Two separate circuits from the electrical circuit panel and/or junction box shall be routed to the control panel for separate power to the controls and pump.

Construction and Inspections

Prior to construction of the permitted system, the engineer should be contacted by the contractor and construction project manager well in advance to provide adequate time to discuss the system components with the contractor, answer questions, resolve any conflict issues and schedule inspection site visits based on construction progress. A pre-OWTS construction meeting and calls are essential and required prior to installation of the OWTS.

The engineer, prior to excavation shall inspect the staked location, of the proposed treatment/absorption bed and tank. All septic system components shall be staked in the field for approval by the Engineer prior to excavation. During initial construction the engineer will evaluate the soils in the location of the absorption treatment field to confirm design assumptions made and existing conditions. The engineer will provide construction recommendations and make adjustments to the field layout and sizing if needed with discussion of construction procedures.

As necessary a revised Construction document drawing will be submitted to the County as needed if changes are required. All installations shall be inspected, surveyed, documented and reported/delineated in the Certification letter and As-built drawing.

County Regulations require that the Design Engineer of record perform site inspections of the permitted system during construction and provide "As-Built" documentation of the installed system to the County after construction is complete. Photo documentation during construction and site system inspections is required to be performed by the contractor and Engineer. System component installation inspection and review of photo documentation is required of the exposed system components prior to backfilling. Photo documentation will be included with the As-Built Record drawing submittal package to finalize the OWTS permit. Therefore the Engineer should be contacted as needed and notified of the construction progress and scheduling to allow time to schedule specific inspection times.

OWTS Operation and Maintenance

All components of the engineered OWTS shall be inspected on a regular basis and be properly maintained. The responsibility for repair and maintenance of the system will remain with the property Owner. The owner shall retain the services of qualified personnel to inspect the OWTS and to perform all maintenance and repairs necessary

to ensure that the system is in good operating condition and is in compliance with the manufacturer's performance requirements. The operating components of the OWTS shall be inspected by the engineer within 30 days of being placed into operation and thereafter every six months by the owner or qualified service provider. In general, for a properly utilized system, septic tanks should be pumped every 3 - 5 years. The effluent filter should be cleaned every six months and at the time of pumping. Absorption fields should be maintained with suitable vegetative cover and kept free of root invasive plants. Positive surface drainage away from the absorption field should be maintained.

If you have any question or need any additional information, please call.

Sincerely,
SOPRIS ENGINEERING, LLC

Paul E. Rutledge
Design Engineer

Yancy Nichol, PE
Principal



Graywater Information Sheet

January 2016

Background

As a result of 2013 legislation, the Colorado Department of Public Health and Environment – Water Quality Control Division developed *Regulation 86: Graywater Control Regulation* (Regulation 86). In 2015, the regulation was adopted by the Water Quality Control Commission.

Regulation 86 is only one component of a larger legal framework which must be in place for graywater to be used legally in the state. In addition to Regulation 86, the Colorado Plumbing Board has a requirement for graywater piping within structures. Any graywater use will also need to comply with Colorado water rights, which is regulated by the Department of Natural Resources, Division of Water Resources.

The 2013 legislation made graywater an opt-in program for local jurisdictions **not** a statewide program. To allow graywater use, local jurisdictions include a city, city and county, or county will have to adopt an ordinance or resolution to allow graywater use within their jurisdiction by developing a graywater control program that meets the requirements of Regulation 86. Please contact your local city or county to see if a local graywater program is in place.

What is graywater?

Graywater is a portion of water used in a residential, commercial or industrial building that may be collected after the first use and put to a second beneficial use.

Graywater sources may include water discharged from:

- Bathroom and laundry-room sinks.
- Bathtubs.
- Showers.
- Laundry machines.

Graywater does **not** include water discharged from:

- Toilets.
- Urinals.
- Kitchen sinks.
- Dishwashers.
- Non-laundry utility sinks.

Graywater uses and treatment requirements

Regulation 86 outlines requirements, prohibitions and standards for graywater use for non-drinking purposes. Allowable graywater use categories are summarized below. Please see Regulation 86 for more detailed information. Note that local requirements may be more stringent than Regulation 86 requirements and may not allow all use categories.

Category A: Single family, subsurface irrigation	Category B: Non-single family, subsurface irrigation	Category C: Single family, indoor toilet and urinal flushing, subsurface irrigation	Category D: Non-single family, indoor toilet and urinal flushing, subsurface irrigation
<ul style="list-style-type: none"> • Single family users. • Design flow of 400 gallons per day (gpd) or less. • For outdoor, subsurface irrigation within the confines of the legal property boundary. 	<ul style="list-style-type: none"> • Non-single family users. • Design flow of 2,000 gpd or less. • For outdoor, subsurface irrigation within the confines of the legal property boundary. 	<ul style="list-style-type: none"> • Single family users. • Design flow of 400 gpd or less. • For indoor toilet and urinal flushing and outdoor, subsurface irrigation within the confines of the legal property boundary. 	<ul style="list-style-type: none"> • Non-single family users. • No maximum flow for indoor use, design flow of 2,000 gpd or less for outdoor irrigation. • For indoor toilet and urinal flushing and outdoor, subsurface irrigation within the confines of the legal property boundary.

Regulation 86 outlines design criteria and control measures (aka best management practices) for each category. Please contact your local city or county to discuss local graywater control program requirements.

Town of Marble non conforming lots

ADDRESS	PARCEL NUMBER	OWNER	ISDS	WATER	LOT SIZE – square feet	YEAR BUILT
116 E. Main St.	2917-261-38-002	Wells	yes	unknown	7,000	1958
120 E. Main St.	2917-261-38-003	Reece	yes	well	7,000	1957
218 E. State St.	2917-261-42-003	Olgiby	yes	unknown	5,227	1977
214 E. Main St.	2917-261-37-015	Drake Cabin	yes	unknown	12,500	1965
215 E. State St.	2917-261-37-007	Orsborn	yes	unknown	7,000	1987
350 E. State St.	2917-261-43-014	Bently	yes	well	15,000	1997
209 E. Hill St.	2917-261-07-009	Lawrence	pit privy/gray water	domestic	10,400	1941
301 E. Hill St.	2917-261-06-001	Russell	yes	unknown	6,600	1978
307 E. Hill St.	2917-261-06-002	Ahlstrom	yes	domestic	7,840	
29 E. Hays St.	2917-261-05-001	215 East Hays St.	yes	domestic	7,500	1975
69 E. Hays St.	2917-261-05-007	Paschal	yes	unknown	13,500	1900
20 W. State St.	2917-261-44-004	Gelin	yes	unknown	10,000	1995
103 W. State St.	2917-261-34-008	Goodwin	yes	unknown	15,000	1950
112 W. State St.	2917-261-45-003	Willoughby	yes	domestic	10,000	1975
113 W. State St.	2917-261-34-013	Bechard	yes	well	7,500	1910
118 E. State St.	2917-261-41-002	Petrocco	yes	domestic	2,500	1985
122 W. State St.	2917-261-45-004	Jones	yes	unknown	7,500	1958
310 W. State St.	2917-261-47-004	Lambert	yes	domestic	15,000	1982
475 W. State St.	2917-262-05-009	Stalter	yes	domestic	15,000	1997
201 W. Park St.	2917-261-46-005	Ridge House	yes	domestic	15,000	1908
223 W. Park St.	2917-261-46-002	Menard	1 bed, 1 bath	unknown	7,500	1993
213 W. Park St.	2917-261-46-004	Colorado State	yes	unknown	7,500	1971
301 W. Park St.	2917-261-47-005	Bascom	yes	unknown	12,500	1910
311 W. Park St.	2917-262-07-006	Keithly	yes	unknown	7,500	1912
317 W. Park St.	2917-262-07-009	Maurin	yes	unknown	12,000	1964
423 W. Park St.	2917-262-06-014	Lumi Sol	yes	domestic	12,500	1982
501 W. Park St.	2917-262-21-014	Dolores Way	yes	domestic	10,000	1955
575 W. Park St.	2917-262-21-008	Villalobos	yes	well	12,375	1895
615 W. Park St.	2917-262-21-009	Jones	yes	well	11,674	1993
630 W. Park St.	2917-263-05-011	Villalobos	yes	well	12,375	1996
701 W. Park St.	2917-262-21-011	Stapelfeldt	yes	well	10,541	1986
102 W. Main St.	2917-261-34-001	Slow Groovin	yes	well	10,000	1996
122 W. Main St.	2917-261-34-011	Marble Church	yes	unknown	17,500	2002
301 W. Main St.	2917-261-31-005	Burnett	yes	unknown	7,500	1991

Town of Marble non conforming lots

397 W. Main St.	2917-261-31-007	Miller	3 bed, 2 bath	unknown	7,500	1994
403 W. Main St.	2917-262-04-004	Marble Historical	yes	well	10,000	1900
412 W. Main St.	2917-262-05-002	Marble Historical	yes	well	10,000	1895
710 W. Main St.	2917-262-20-023	Costa	yes	well	16,552	1982
101 W. Marble St.	2917-261-13-006	Hall	yes	well	10,000	1981
120 W. Marble St.	2917-261-18-003	Morande	yes	domestic	10,000	1994
203 W. Marble St.	2917-261-14-001	Morehead	yes	unknown	5,000	1924
W. Silver	2917-261-18-009	Naum	yes	unknown	10,000	1910
310 E. Marble St	2917-261-20-012	Roberts	yes	well	19,994	1983

VARIANCE INFORMATION REQUESTS

While we are not pursuing a variance anymore, Trustee Larry Good asked for a detailed list of our hardships on the property that are required to articulate for a variance request. Trustee Charlie Manus wanted us to address precedence because he didn't want to approve our variance due to "setting a precedence". We have included those here:

VARIANCE HARDSHIPS

- 1) This lot is absolutely constrained on all 4 sides by roads, road easements, the Clarence Ditch to the east and further to the east is the only privately owned property which is outside town boundary;
- 2) It's a hardship to be unable to increase the size of our property when desiring to improve the property;
- 3) The pit privy is over full and septic pumping companies don't pump privies;
- 4) It's a hardship when State and Town regs do not allow pit privies to be updated nor can we dig a new hole for a new privy;
- 5) The pit privy is an out-dated septic system that is not in compliance with current codes; it should be abandoned; it would be a hardship not to have any septic system;
- 6) It's a hardship when State and Town regs do not allow any pit privy alternatives except for a compliant OWTs;
- 7) Kitchen sink graywater flowing free in a yard is considered a contaminant by State standards; so it's a hardship not to be allowed to change the graywater system;
- 8) Marble does not have design criteria for graywater treatment works which creates a hardship to properly dispose of the graywater;
- 9) There's a physical hardship of using a privy after dark, especially in winter.

PRECEDENT & PRECEDENCE

Precedent: a thing done or said that can be used as a model or example;

Precedence: The condition of being considered more important than someone or something else; priority in importance, order, or rank; a right to preferential treatment.

By denying our variance because "you don't want to set a precedence" it seems you may actually be setting a precedent that you will probably deny variances, or variances that have anything to do with non-conforming developed lots. A positive precedent is that Trustees consider each variance as unique and ruled on a case-by-case basis. My variance would not have set a precedent for another variance following mine because there's no other developed property in Marble like mine, it's unique.

When we submitted our variance, we never expected preferential treatment; only to be ruled fairly. We would have preferred our variance be given some kind of positive acceptance because the property had been given an ISDS permit in 1995; and this developed property was annexed into the Town as a single family residence with only 10,400 sq ft allowing it the same use rights as residential properties for year round use.