



**TOWN OF GRAY**  
**STAFF REVIEW COMMITTEE**  
**AGENDA • MAY 15, 2023**

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**Staff Review  
Committee**

**12:00 PM**

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**I. Meeting Commences**

**II. New Business**

a.

Jason Manley of LJM Properties, LLC

A request by Jason Manley of LJM Properties, LLC for review of plan details for development of Lot #1 of the Lewiston Road Subdivision (Plan Book 222, Page 249), at approximately 104 Lewiston Road, Map 28, Lot 26-02-01 in a Commercial Zoning District, as required per condition #12 of the subdivision Notice of Decision, issued by the Gray Planning Board on May 10, 2022.

**III. Adjournment**

*\* The Town of Gray is an equal opportunity employer and complies with all applicable equal access to public accommodations law. If you are planning to attend a Town Council or Town committee or board meeting and need assistance with a physical disability, please contact the Town Manager's office at least 48 hours in advance of the meeting to have the Town assist you. 657-3339. TTY 657-3931.*



**Date:** April 17, 2023

**To:** Jason Manley  
LJM Properties  
18n Boulder Drive  
Gray, ME 04039

**RE:** Water well placement 104 Lewiston Road, Gray

**Date of Site Visit:** April 4, 2023

**Purpose of Site Visit:**

The purpose of the site visit and well placement is to satisfy the Town of Gray regarding a new well located on a new lot with frontage on Route 100. The lot will be served by a subsurface wastewater disposal system, and there is an existing septic system on the adjacent lot. The new well requires a setback of 100 feet from both systems. In addition, there is concern from the Town of Gray to place the new well sufficiently separated from the State Road, which is treated with salt.

**Background Information:**

The Grading and Utility Plan by DM Roma Consulting Engineers, dated 5-23-2022, depicts a proposed water well on Lot 2. This well location is problematic, as it is in a snow dumping area and is difficult to access from the house on Lot 1.

**Results of April 4, 2023 site visit:**

The site was investigated to find a better location for the Lot 1 well. Setback distances were tape measured from both the existing septic system on Lot 2 and the flagged septic system designed by Hope Hampton, LSE.

A suitable well site was located and flagged that maintains more than a 100-foot setback from both septic systems. The proposed well site is approximately 83 feet from the rear corner of Lots 1 and 2, approximately 20 feet from the rear property line of Lot 1, and approximately 160 feet from the State Road. This well site is approximately 30 feet south of the proposed well depicted on the 5-5-2022 plan of Roma.

**Conclusions:**

The well site identified and flagged is in a location with suitable setbacks from septic systems and road salt applications.



Mark Cenci, LG # 467





**Date:** May 23, 2022

**To:** J.P. Connolly, Senior Project Engineer  
DM Roma Consulting Engineers  
PO Box 1116  
Windham, ME 04062

**RE:** Well location at 104 Lewiston Road, Gray

On May 19, 2022, I had a telephone conversation with Doug Webster, Planning Director of the Town of Gray, in order to better understand his concerns regarding a proposed well to serve the residence on lot 1. Mr. Webster described the site characteristics that cause him to question the viability of the lot for a residence.

Specifically, he observed the proposed well location shown on the Grading and Utility plan of 5-5-2022 could potentially be down gradient of Lewiston Road and both the proposed residential septic system and the septic system designed by Richard Sweet for the Cyr Auction Barn. In the absence of a hydrogeological study, which was waived by the Planning Board this project, I do not necessarily agree with this analysis.

To alleviate these concerns, an alternate location for the residential well is proposed on lot 2, at a higher elevation. The well location is depicted on the Grading and Utility Plan, dated 5-23-2022.

This alternate well site will alleviate the concerns of the viability of lot 3, as expressed by Mr. Webster. A future hydrogeologic study of the site conditions, soils and bedrock characteristics may demonstrate the viability of other well locations and should be available as an option for the developer.

In summary, the well location depicted on the Grading and Utility Plan of DM Roma, dated 5-23-2022 satisfies the concerns of lot viability as expressed by Doug Webster.

  
Mark Cenci, LG # 467



**Memo to Accompany the Re-design  
of the Existing Septic System  
at 104 Lewiston Road, Gray**

**Date:** May 16, 2022

**To:** J.P. Connolly  
Senior Project Engineer  
DM Roma Consulting Engineers  
PO Box 1116  
Windham, ME 04062

**RE:** Hydrogeology relative to road salt, well setbacks and wastewater disposal

**Background information:**

In 1990 Richard Sweet designed a First-Time subsurface wastewater disposal system to serve an auction hall. The system was designed to serve 200 persons using the facility. The design flow was assumed to be 5 gallons of water use per person per day. The disposal capacity is 1090 gpd, using the current values from the *Rules*.

The system was installed and has been used sporadically since. It is comprised of septic tank(s) with a liquid capacity of 2000 gallons and 72 high-capacity plastic chambers in an array of 12 rows with 6 chambers per row. The rows are stepped down at 3 inches per row. The system is in good working order, having been seldom used since installation.

With regard to setback requirements, the system is categorized as being between 1,000 and 2,000 gallons per day of wastewater disposal, which requires a water well setback of 200 feet. This setback requirement presents a challenge to the proposed use of the property as a subdivision into three lots, one of which will be a residence.

The proposed residence will need a water well. There is a requirement in Gray to maintain a setback of a minimum of 150 feet from a new well to a road right-of-way to protect the water

supply from salt intrusion from road maintenance. When combined with the requirement of the subsurface wastewater disposal rules to maintain a 200-foot separation between a water well and a septic system disposing 1090 gpd, there is no location on the proposed residential lot for the well. To resolve this problem, a reduction in the permitted use of the existing disposal area is proposed.

### **Hydrogeology of the Site:**

On-site soil testing by Richard Sweet and Alex Finnemore is consistent and reveals the soils of the site to be well drained, very deep to bedrock and moderately deep to restrictive horizons in the subsoil. The soils are mapped as Paxton fine sandy loam on the *National Cooperative Soil Survey*.

These soil and bedrock conditions are somewhat favorable to the protection of groundwater in the bedrock aquifer, as potential contaminants are somewhat prevented from a rapid flow to the water in bedrock fractures. The hydrogeologic processes on such sites favor a slow migration of the contaminants through the topsoils and subsoils, where they are retarded onto soil particles, diluted by near-surface groundwater, bio-chemically altered by plants and animals, and shunted to wetlands and surface drainages atop the restrictive horizons.

*The Relations Among Water Levels, Specific Conductance, and Depth of Bedrock Fractures in Four Road-Salt Contaminated Wells in Maine, 2007-9* by Charles W. Schalk and Nicholas W. Stasulis, (USGS Scientific Investigations Report 2012-5205) provides a good summary of the problems of water wells in Maine affected by road salt. Whereas Paxton and other basal till soils offer protection to the bedrock aquifer from road salt, elevated chloride in soils persists and increases over time and can penetrate to the bedrock surface. They note that sodium readily attaches to soil particles but chloride is mobile in groundwater. The distance of wind borne and splash effects of chloride is measured to be as much as 120 feet, which seems pertinent to State Route 100 and the speed of vehicles there. Whereas a required setback of 150 feet from a road to a well may be excessive in a dead-end subdivision road that receives relatively less road salt, the setback from Route 100 may be appropriate.

Given the difficulty and inconclusiveness of a predictive study of the effects of road salt on a water well located closer to Route 100 than 150 feet, it seems more appropriate to review the installed septic system, its history of use and the proposed future with regard to that setback requirement.

### **Re-permitting of the Existing Septic System**

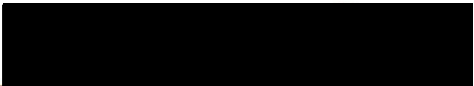
The current use of the facility is an agricultural operation with two employees. The facility does not dispose of process water into the septic system. As such, the septic system is oversized for

the current use. This is a fortunate situation as prolonged use at the design flow deteriorates any septic system.

This system can be re-permitted for a design flow less than 1000 gallons per day, thereby reducing the required setback to the proposed residential water well to a minimum of 100 feet. Enclosed is a revised HHE-200 for the permit process. A restriction can be added to the deed of Lot 3 to limit the water use of the facility to less than 1000 gallons of per day. This is equivalent to 83 employees using 12 gpd each.

**Conclusions:**

Because the existing septic system serving 104 Lewiston Road is a modern design, installed correctly and permitted by the Town, it makes sense to continue using it. The original use is no longer valid and the system is oversized. The 200-foot water well setback is not pertinent or needed for the current and proposed use of this system. The system can be re-permitted for a lower gallons per day use, thereby allowing a reduced setback to a water well to serve a residence. In this way the 150-foot water well setback to Route 100 can be maintained, as the possible effects of road salt on a water well is much less understood and difficult to predict. A revised HHE-200 is enclosed.



Mark Cenci, LSE, LG

# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. Health & Human Services  
Div of Environmental Health, 11 SHS  
(207) 287-5672 Fax: (207) 287-4172

## PROPERTY LOCATION

**>> CAUTION: LPI APPROVAL REQUIRED <<**

City, Town, or Plantation: GRAY  
Street or Road: 104 LEWISTON ROAD  
Subdivision, Lot #: LOT 3

Town/City: \_\_\_\_\_ Permit #: \_\_\_\_\_  
Date Permit Issued: 1/1 Fee: \$ \_\_\_\_\_ Double Fee Charged

## OWNER/APPLICANT INFORMATION

Name (last, first, MI): ODESSA PROPERTIES, LLC  Owner  Applicant  
Mailing Address of Owner/Applicant: P.O. BOX 963  
GRAY, ME 04039  
Daytime Tel. #: \_\_\_\_\_

Local Plumbing Inspector Signature: \_\_\_\_\_ L.P.I. #: \_\_\_\_\_  
 Owner  Town  State

The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

Municipal Tax Map #: \_\_\_\_\_ Lot #: \_\_\_\_\_

## OWNER OR APPLICANT STATEMENT

I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.

Signature of Owner or Applicant: \_\_\_\_\_ Date: \_\_\_\_\_

## CAUTION: INSPECTION REQUIRED

I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. (1st) date approved \_\_\_\_\_

Local Plumbing Inspector Signature: \_\_\_\_\_ (2nd) date approved \_\_\_\_\_

## PERMIT INFORMATION

### TYPE OF APPLICATION

- 1. First Time System
- 2. Replacement System
- Type replaced: \_\_\_\_\_
- Year installed: \_\_\_\_\_
- 3. Expanded System
  - a. <25% Expansion
  - b. >25% Expansion
- 4. Experimental System
- 5. Seasonal Conversion

### THIS APPLICATION REQUIRES

- 1. No Rule Variance
- 2. First Time System Variance
  - a. Local Plumbing Inspector Approval
  - b. State & Local Plumbing Inspector Approval
- 3. Replacement System Variance
  - a. Local Plumbing Inspector Approval
  - b. State & Local Plumbing Inspector Approval
- 4. Minimum Lot Size Variance
- 5. Seasonal Conversion Permit

### DISPOSAL SYSTEM COMPONENTS

- 1. Complete Non-engineered System
- 2. Primitive System (graywater & alt. toilet)
- 3. Alternative Toilet, specify: \_\_\_\_\_
- 4. Non-engineered Treatment Tank (only)
- 5. Holding Tank, \_\_\_\_\_ gallons
- 6. Non-engineered Disposal Field (only)
- 7. Separated Laundry System
- 8. Complete Engineered System (2000 gpd or more)
- 9. Engineered Treatment Tank (only)
- 10. Engineered Disposal Field (only)
- 11. Pre-treatment, specify: \_\_\_\_\_
- 12. Miscellaneous Components

### SIZE OF PROPERTY

70,395 SQ. FT.  
ACRES

### DISPOSAL SYSTEM TO SERVE

- 1. Single Family Dwelling Unit, No. of Bedrooms: \_\_\_\_\_
- 2. Multiple Family Dwelling, No. of Units: \_\_\_\_\_
- Other: AGRICULTURE / MANUFACTURING  
(specify)
- Current Use  Seasonal  Year Round  Undeveloped

### TYPE OF WATER SUPPLY

- 1. Drilled Well  2. Dug Well  3. Private
- 4. Public  5. Other

## DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

### TREATMENT TANK

- 1. Concrete USE EXISTING TANK(S)
- 2. Regular
- 3. Low Profile
- 4. Plastic
- 5. Other: \_\_\_\_\_
- CAPACITY: 2000 GAL.

### DISPOSAL FIELD TYPE & SIZE

- 1. Stone Bed  2. Stone Trench
- 3. Proprietary Device
  - a. cluster array  Linear
  - b. regular load  c. H-20 load
- 4. Other: \_\_\_\_\_
- SIZE: 3000 sq. ft.  in. ft.

### GARBAGE DISPOSAL UNIT

- 1. No  2. Yes  3. Maybe
- If Yes or Maybe, specify one below:
  - a. multi-compartment tank
  - b. \_\_\_\_\_ tanks in series
  - c. increase in tank capacity
  - d. Filter on Tank Outlet

### DESIGN FLOW

999 gallons per day  
BASED ON:  
 1. Table 4A (dwelling unit(s))  
 2. Table 4C (other facilities)  
83 EMPLOYERS AT 12 GPD EACH  
 3. Section 4G (meter readings)  
ATTACH WATER METER DATA

### SOIL DATA & DESIGN CLASS

PROFILE CONDITION: 31 C  
at Observation Hole # TR1  
Depth 19"  
of Most Limiting Soil Factor

### DISPOSAL FIELD SIZING

- 1. Medium---2.6 sq. ft. / gpd
- 2. Medium---Large 3.3 sq. ft. / gpd
- 3. Large---4.1 sq. ft. / gpd
- 4. Extra Large---5.0 sq. ft. / gpd

### EFFLUENT/EJECTOR PUMP

- 1. Not Required
- 2. May Be Required
- 3. Required
- Specify only for engineered systems:  
DOSE: \_\_\_\_\_ gallons

### LATITUDE AND LONGITUDE

at center of disposal area  
Lat. 43 d 54 m 18 s 94  
Lon. 70 d 19 m 33 s 00  
if g.p.s, state margin of error: \_\_\_\_\_

## SITE EVALUATOR STATEMENT

I certify that on 5-16-22 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).

Site Evaluator Signature: \_\_\_\_\_

Site Evaluator Name Printed: MARK CENCI

SE #: 262 Date: 5-16-22

Telephone Number: 329-3524

E-mail Address: \_\_\_\_\_

Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.



SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services  
 Division of Health Engineering, Station 10  
 (207) 287-5672 Fax: (207) 287-3165

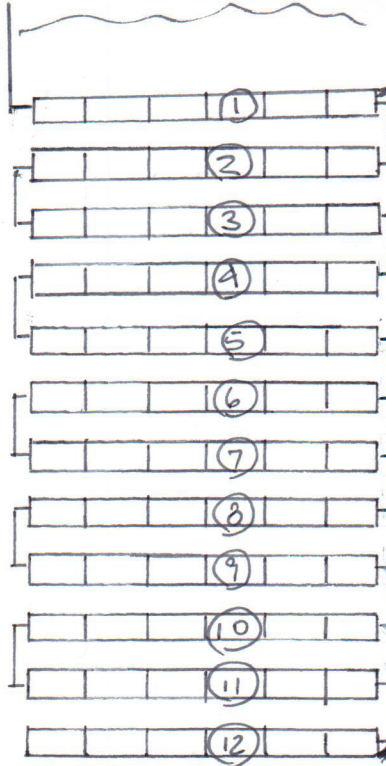
Town, City, Plantation **GRAY**

Street, Road, Subdivision **104 LEWISTON ROAD**

Owner or Applicant Name **ODESSA PROPERTIES**

SUBSURFACE WASTEWATER DISPOSAL PLAN

Scale: 1" = 20 ft



EXISTING 72  
 HIGH CAPACITY/  
 PLASTIC CHAMBERS  
 12 ROWS OF 6 CHAMBERS  
 STEPPED DOWN 3"  
 PER ROW SEPARATED  
 BY 3' OF SAND.  
 SERIAL DISTRIBUTION

RT  
 100

96'

EXISTING  
 FILL EXTENSION

BACKFILL REQUIREMENTS

CONSTRUCTION ELEVATIONS

ELEVATION REFERENCE POINT

Depth of Backfill (upslope) 16"  
 Depth of Backfill (downslope) 23"

Finished Grade Elevation (at Row 1) \_\_\_\_\_  
 Top of Proprietary Device (at Row 1) \_\_\_\_\_  
 Bottom of Disposal Field (at Row 1) \_\_\_\_\_

Location & Description: SYSTEM IS INSTALLED  
 Reference Elevation is 0.0' of \_\_\_\_\_

DISPOSAL FIELD CROSS SECTION

Scales:  
 Vertical: 1" = 10'  
 Horizontal: 1" = 10'

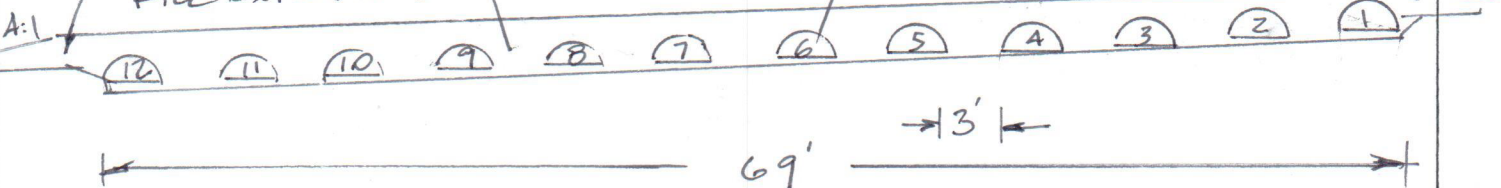
CHAMBER ROWS STEP  
 DOWN 3" PER ROW

12 ROWS OF  
 HIGH CAPACITY  
 PLASTIC CHAMBERS  
 15" HIGH  
 3' X 6' EACH

EXISTING  
 23" FILL  
 AND  
 FILL EXTENSIONS

3' SEPARATION  
 BETWEEN ROWS

16" FILL



Site Evaluator Signature

SE #

Date

262

5-16-22