

6/24/80

PERMIT

P 30615

A 29677

SEWAGE DISPOSAL SYSTEM

MARYLAND STATE DEPARTMENT OF HEALTH

HOWARD COUNTY

ELLICOTT CITY

DISTRICT 3rd

DATE 4/1/80

Robert P. Johns

IS PERMITTED TO INSTALL ALTER

ADDRESS _____ PHONE _____

SUBDIVISION _____ ROAD 2240 Route 97 LOT _____

PROPERTY OWNER Eva France

ADDRESS 2240 Route 97, Cooksville, Md.

SPECIFICATIONS

SEPTIC TANK CAPACITY _____ GALLONS

DRAIN FIELD _____ DEPTH _____ FEET, BOTTOM AREA _____ SQ. FT.

DEEP TRENCH _____ DEPTH _____ FEET, BOTTOM AREA _____ SQ. FT.

SEEPAGE PITS _____ ABSORBENT SIDE-WALL AREA _____ SQ. FT.

INLET PIPE _____ FT. BELOW ORIGINAL GRADE. MAXIMUM DEPTH _____ FT. BELOW ORIGINAL GRADE

EFFECTIVE DEPTH AT _____ FT. BELOW ORIGINAL GRADE.

LOCATE DISPOSAL AREA _____ FT. FROM _____ LOT LINE AND _____ FT. FROM _____ LOT LINE AS SEEN WHEN

FACING LOT FROM

INSTALL MOUND SYSTEM PER APPROVED ATTACHED DRAWING.

Notify Health Department at 992-2330

PLANS APPROVED BY Palmer F. Wine DATE 4/1/80

COVER NO WORK UNTIL INSPECTED AND APPROVED.

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

NOTE: IF TRENCH IS USED CALL FOR INSPECTION BEFORE PLACING GRAVEL IN TRENCH.

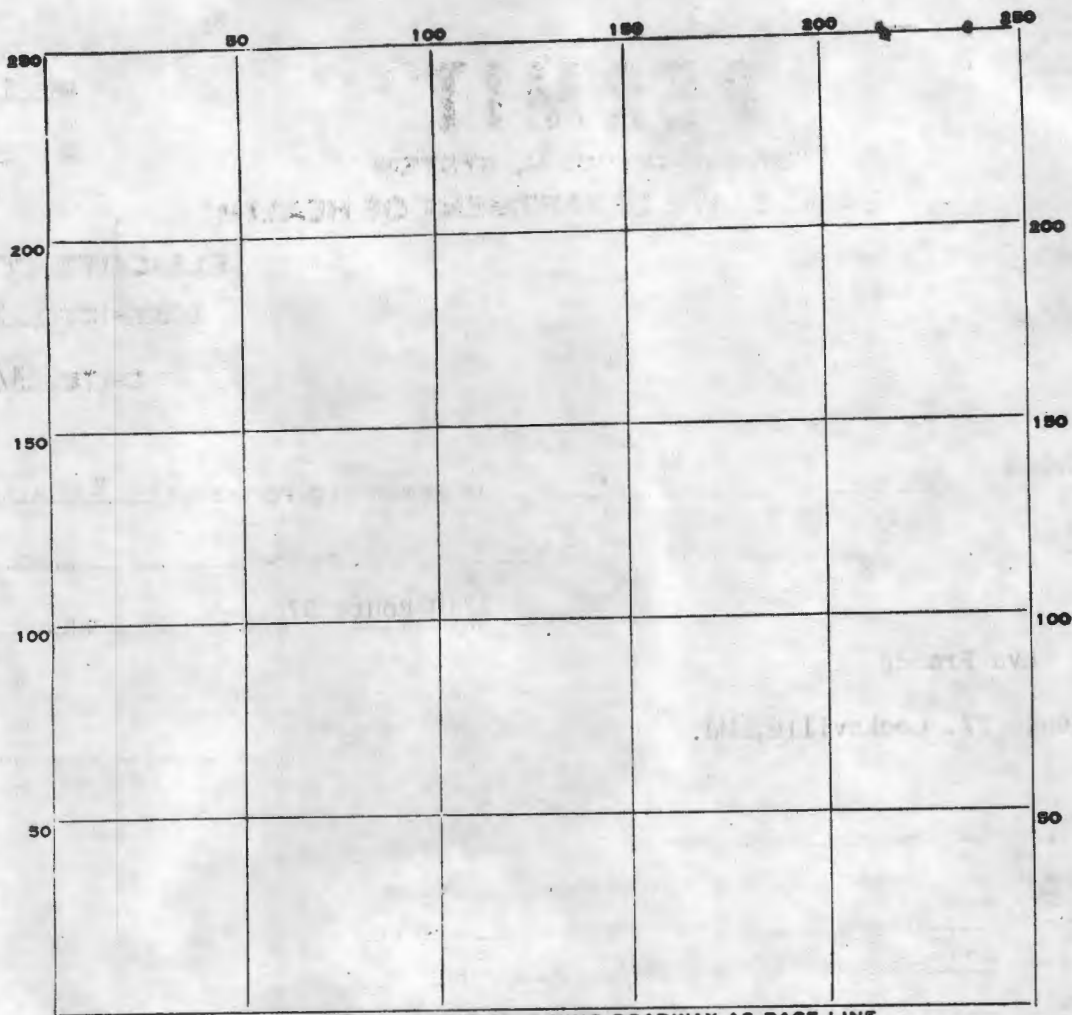
NOTE: NO DRY WELL SHALL EXCEED 15 FOOT IN DIAMETER.

NOTE: ALL PIPE FROM HOUSE TO DISPOSAL AREA MUST BE CAST IRON.

PERMIT VOID AFTER THREE YEARS.

NOTE: INSTALL STAND PIPE ON SEPTIC TANK AND DRY WELL. STAND PIPES MUST BE 6 INCHES IN DIAMETER. CAST IRON, CONCRETE OR TERRA COTTA ACCEPTED.

***INSTALLER IS RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.**



INDICATE NORTH. - NAME ADJOINING ROADWAY AS BASE LINE.

PERMIT CARD _____

SEPTIC TANK, LEVEL _____

CLEANOUTS _____

DISTRIBUTION BOX, LEVEL _____

TILE FIELD, DEPTH _____ FT. TRENCH WIDTH _____ FT.

GRAVEL DEPTH _____ IN. TOTAL LENGTH _____ FT.

NUMBER OF TRENCHES _____ TOTAL BOTTOM AREA _____

SEEPAGE PITS, INSIDE DIAMETER _____ FT. DEPTH BELOW INLET _____ FT.

ABSORBENT AREA _____ SQ. FT.

REMARKS _____

DATE SYSTEM APPROVED _____

INSPECTOR _____

**FISHER, COLLINS
& CARTER, INC.**

**CIVIL ENGINEERING CONSULTANTS
and LAND SURVEYORS**

Terrell A. Fisher
Earl D. Collins
Ronald B. Carter

May 15, 1980

Mr. Donald Monahan
Howard County Health Department
3716 Court Place
Ellicott City, Maryland 21043

Re: Mound Septic Design
FRANCE PROPERTY
Howard County, Maryland

Dear Mr. Monahan

In response to our meeting in our office on May 1, 1980, and subsequent on site visit on May 9, 1980, we have revised the location of the mound septic system to conform to your request.

We are therefore enclosing the original mylar drawing for signature by the Howard County Health Department, together with a copy of the revised design computations.

Once this drawing is signed, please notify our office so that we may forward the necessary documents to Mr. John Covalt, State Department of Health and Mental Hygiene.

Thank you for your assistance in expediting the review of this project.

Very truly yours,

FISHER, COLLINS & CARTER, Inc.



Terrell A. Fisher, P.E.

TAF/mac
Enclosure
cc: Mr. Rochelle Brown
Mr. John Covalt

? length & width
? figure for computing size -
appears to be for 22 min pipe - system
seems undersized

RECEIVED
DIVISION OF
GENERAL SANITATION
MAY 20 1980

I DESIGN CRITERIA:

- BASED ON PERMEABLE SOILS IN "DESIGN AND CONSTRUCTION MANUAL FOR WISCONSIN MOUNDS", PREPARED BY THE UNIVERSITY OF WISCONSIN AND DATED SEPTEMBER, 1978.
- FLOW CHARACTERISTICS FOR A FAMILY OF THREE.
- PER CAPITA FLOW 100 GALLONS.
- GROUND SLOPE @ 2%

II DESIGN OF ABSORPTION AREA:

(a). SIZING:

- INFILTRATION CAPACITY OF 1.2 gal/ft²/day FOR MEDIUM SAND TEXTURE
- 3 PEOPLE x 100 gal/capita = 300 GALLONS/DAY
- 300 GALS / 1.2 GAL/FT² = 250 FT²

(b). SLOWLY PERMEABLE SITE WITH WATER TABLE @ 3 FT. THEREFORE A TRENCH SYSTEM MUST BE USED.

(c). TRENCH WIDTH OF 3 FT IS ACCEPTABLE. = (A)

(d). TRENCH LENGTH = 250 FT² / 3 FT = 83 FT :

(e). FOR A 3 TRENCH SYSTEM:

83 FT. / 3 TRENCHES = 28 FT / TRENCH = (B)

(f). INFILTRATION RATE = 0.24 gal/ft²

(g). TRENCH SPACING = $\left(\frac{300 \text{ gal}}{2}\right) / 0.24 \text{ gal/ft}^2 / 28 \text{ ft} = 22.32 \text{ (C)}$

OR 22 FT. FROM CENTER TO CENTER.

III MOUND HEIGHT DESIGN:

(a). FILL DEPTH @ UPSTREAM END BENEATH ABSORPTION AREA = 1.5 FT. (D)

(b). FILL DEPTH @ DOWNSTREAM END

$$= 1.50 \text{ FT.} + (.02)(1.5 + 22 + 22 + 1.5)$$

$$= 1.50 \text{ FT.} + 0.94$$

FILL = 2.44 FT. (E)

(C). TRENCH DEPTH (F) = (0.75 MIN) x (150) = 1.12 FT WHICH INCLUDES 0.75 FT OF AGGREGATE BELOW DISTRIBUTION SYSTEM.

(1). CAP AND TOP SOIL DEPTH (H) = (1.5')(1.5) = 2.25 FT, WHICH INCLUDES 1.5 FT. OF SUBSOIL AND 0.75 FT. OF TOP SOIL.

(2). CAP AND TOP SOIL DEPTH (G) = 1.5 FT WHICH INCLUDES 0.75 FT OF SUBSOIL AND 0.75 FT. OF TOP SOIL.

IV MOUND LENGTH & WIDTH.

(a). END SLOPES (K) = MOUND DEPTH @ CENTER x 3:1 slope

$$= (D + E) \div 2 + F + H \times 3$$

$$= ((1.5 + 2.4) \div 2 + 1.12 + 2.25) \times 3$$

$$= ((3.9/2) + 3.37) \times 3$$

$$(K) = 15.96 \text{ FT} \approx 16 \text{ FT}$$

(b). UPSLOPE WIDTH (J) = MOUND DEPTH @ UPSLOPE EDGE x 3:1 slope x SLOPE CORRECTION (TABLE 3).

$$= (D + F + G) (3) (0.94)$$

$$(J) = (1.5 + 1.12 + 1.5) (3) (0.94)$$

$$(J) = 11.62 \text{ FT.} \approx 12 \text{ FT.}$$

(c). DOWNSLOPE WIDTH (I) = MOUND DEPTH @ DOWNSLOPE EDGE x 3:1 SLOPE x SLOPE CORRECTION

$$(I) = (E + F + G) (3) (1.06)$$

$$(I) = (2.44 + 1.12 + 1.5) (3) (1.06)$$

$$(I) = 16.09 \text{ FT} = 16 \text{ FT}$$

$$(d). \text{ MOUND LENGTH } (L) = B + 2K$$

$$= 28 + 2(16)$$

$$(L) = 60 \text{ FT. - W}$$

$$(e). \text{ MOUND WIDTH } (W) = J + A/2 + 2C + A/2 + I$$

$$= 12 + 3/2 + 2(22) + 3/2 + 16$$

$$(W) = 75 \text{ FT. - L}$$

V BASAL AREA:

BASAL AREA REQUIRED = DAILY FLOW ÷ INFILTRATION CAPACITY OF SOIL

$$= (300 \text{ gal/day}) \div (0.24 \text{ gal/ft}^2/\text{day})$$

$$\text{Area}_{\text{req}} = 1250 \text{ ft}^2$$

$$\text{BASAL AREA AVAILABLE} = (B)(2C + A + I)$$

$$= (28)(44 + 3 + 16)$$

$$= (28)(63)$$

$$\text{Area}_{\text{avail}} = 1,764 \text{ ft}^2 \quad \text{O.K.} \checkmark$$

VI DISTRIBUTION SYSTEM:

HOLE SPACING = 30 INCHES

HOLE DIAMETER = 1/4 INCH

LATERAL LENGTH: $(28 \text{ FT} / 2) - 0.5 \text{ FT.}$
 $14 - 0.5 = 13.5 \text{ FT.}$

LATERAL DIAMETER FOR 13.5 FT. LENGTH, 1/4" ϕ IS 1 INCH (TABLE #4).

LATERAL SPACING IS (c) Pg. #1 THIS COMPUTATION = 22 FT.

MANIFOLD LENGTH = 44 FT
MANIFOLD DIAMETER = 2" ϕ

VII. PUMPING CHAMBER SIZE = 5 FT. DIAMETER MANHOLE.

VIII PUMP SIZE:

- (a). UPSTREAM LATERAL INVERT = 102.52
- (b). DOWNSTREAM LATERAL INVERT = $98.9 + 2.44 + .75$
= 102.1
- (c). PUMP DISCHARGE INVERT = 93.0

$\Delta H_{40} = 9.52$ FT

- (d). PUMP IS LOCATED 70 FT. FROM $\&$ LAST DISTRIBUTION LATERAL.
- (e). PUMP CAPACITY IS 36 gpm USING 2 FT. OF PRESSURE HEAD @ END OF LATERAL

- (f). PUMP HEAD: STATIC + FRICTION
 - a. for 2" ϕ @ 36 gpm = $2.05 \frac{\text{ft}}{100 \text{ ft}} \times 70 \text{ ft} = 1.44 \text{ ft.}$
 - b. for 3" ϕ @ 36 gpm = $0.30 \frac{\text{ft}}{100 \text{ ft}} \times 70 \text{ ft} = 0.21 \text{ ft.}$

(g). PRESSURE @ DISTAL END OF LATERAL

TOTAL HEAD: $9.52 \text{ FT.} + 1.44 \text{ FT.} + 2.50 \text{ FT.} = 13.46 \text{ FT.}$
(2" ϕ PIPE)

TOTAL HEAD: $9.52 \text{ FT.} + 0.21 \text{ FT.} + 2.50 \text{ FT.} = 12.23 \text{ FT.}$

PUMP WITH 36 gpm @ 13.46 FT OF HEAD WITH 2" ϕ DISCHARGE.

IX. DOSING QUANTITY

- (a). FROM TABLE 5, NET RECOMMENDED DOSING QUANTITY IS 75 gal./dose.
- (b). VOID VOLUME OF LATERALS OF 1" ϕ PIPE IS .041 gal/ft

BY JAF DATE 2/5/80
CHKD. BY _____ DATE _____

SUBJECT _____
ROUND SEPTIC TANK
#2240 NO. ROUTE #97

SHEET NO. 5 OF 5
JOB NO. 2108

$$(C). \text{VOID VOLUME} = 8\text{FT} \times 0.041 \text{ gal/ft} = 3.4 \text{ gal}$$

$$(D). \text{DOSE QUANTITY (REQ'D)} = 3.4 \text{ gal} \times 10 = 34 \text{ gal.}$$

$$\text{DOSE QUANTITY (AVAIL.)} = 75 \text{ gal.}$$

$$\text{DOSE VOLUME} = \frac{75 \text{ gal}}{7.43 \text{ gal/ft}^3} = 10.03 \text{ ft}^3$$

$$\text{MANHOLE VOLUME } 5' \phi = \left(\frac{19.63 \text{ ft}^3}{\text{ft}} \right)$$

$$\text{PUMPING ON/OFF VOLUME} = \frac{10.03 \text{ ft}^3}{19.63 \text{ ft}^3/\text{ft}} \cdot 0.5 \text{ FT. DIFFERENTIAL LIQUID LEVEL}$$

Frang Prop

11/17/81 dug up pressure feed line between pump and manual found step up joint had come apart. Advised Mr. Frang to lay some pre cement and recement joint.

SK

11/17/81 Mr. Frang called he has recemented joint and is ready for our inspection.

11/19/81 - checked pipe, it is sealed with no indication of leaks. System has been in use overnight. Told Mr. France to cover pipe. JS

EH - 24

HOWARD COUNTY HEALTH DEPARTMENT

Bureau of Environmental Health

Ellicott City, Maryland 21043

Phone: 992-2330

To: File - A29677

France property

12/16/80 Visited site w/ John
Coualt & Steve Kiel. No

odor or overflow was apparent.
Mound may need better maintenance

as some rain water can pool
on top & sides have developing
ruts, which may erode further.

From: F. Skinner

Date: 12/16/80



A photograph of a weathered wooden shed with a gabled roof. A sign on the left side of the shed reads "NO TRESPASSING" with a crossed-out symbol below it. A rustic wooden fence made of vertical posts and horizontal rails is in front of the shed. The background is filled with dense green trees and bushes. The photo has a vintage, slightly faded appearance with rounded corners.

NO
TRESPASSING

A photograph of a small, weathered wooden structure, possibly a guard post or a small shed, situated in a wooded area. The structure has a gabled roof and is surrounded by a fence made of vertical wooden posts. A sign on the side of the structure reads "NO TRESPASSING". The background is filled with dense green trees and foliage.

NO
TRESPASSING









