Rodrigue, Patrick

SUBMIT THE FOLLOWING COMPLETED FORM TO YOUR LOCAL PLUMBING INSPECTOR

Land Use - Augusta

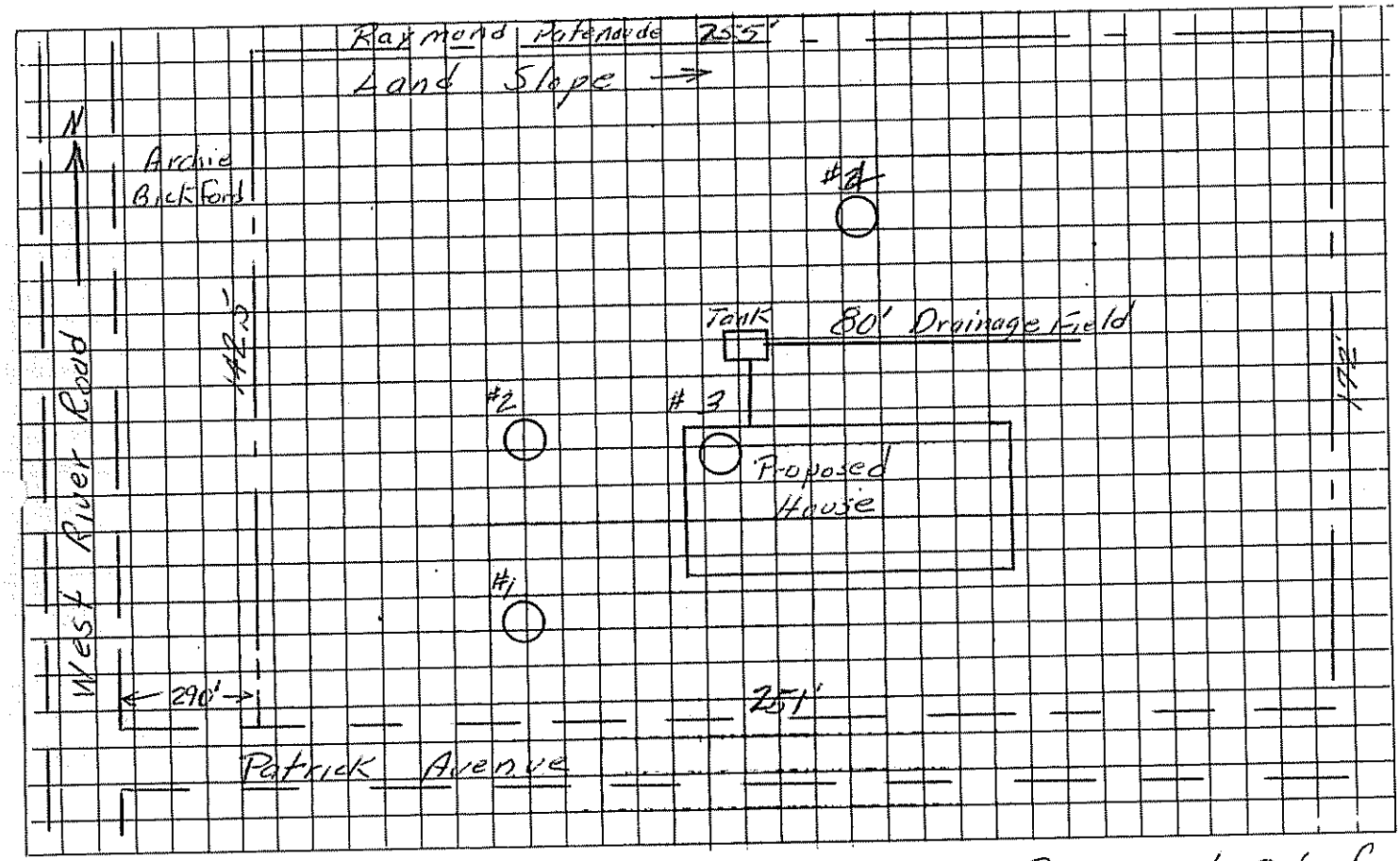
DATE 3-28-73
NUMBER OF BEDROOMS 2
SIZE OF SEPTIC TANK 1000
TYPE OF SOIL Sandy Loam

Test Performed by Walter Smith CE #1576
Local Plumbing Inspector's Signature
George K. Smith

OWNER Patrick Rodrigue
STREET 129 R/O Belfast Ave
CITY Augusta, MAINE
TEL. NUMBER 622-1030

LOCATION OF PROPOSED INSTALLATION
STREET Patrick (Lots 1&2 of
CITY Augusta MAINE
TEL. NUMBER —

SKETCH: LOCATION OF BUILDING DISPOSAL SYSTEM, TERRAIN FEATURES, PERCOLATION HOLES, WATER SUPPLIES, ETC.



5'+ Depth to Water Table
10'+ Depth to Bedrock
5'+ Depth to Clay or other impervious strata

REMARKS Recommend 80' of Absorption Trench Min.
Minimum Distance from Well to Field 100'

HOLE	HOLE DEPTH	TIME START	TIME FINISH	DEPTH OF WATER SURFACE START	DEPTH OF WATER SURFACE FINISH	ELAPSED TIME	TOTAL DROP OF WATER	PERCOL. RATE MINUTES/INCH
#1	36 in.	4:00	4:31	18½ in.	22½ in.	31 min.	4 in.	8 min/in
#2	36 in.	4:04	4:32	17 in.	29 in.	28 min.	12 in.	2.3 min/in
#3	36 in.	4:06	4:33	19 in.	28 in.	27 min.	9 in.	3 min/in
#4	36 in.	4:07	4:34	17 in.	28½ in.	27 min.	11½ in.	2.4 min/in
							AVERAGE RATE	4 min/in

Grand View Sub-

GRAND VIEW SUBDIVISION

UNIT 2

PRELIMINARY ENGINEER'S REPORT

Herbert R. Doten
Consulting Engineer
128 State Street
Augusta, Maine
May, 1973

GRAND VIEW SUBDIVISION UNIT 2

WEST RIVER ROAD, AUGUSTA, MAINE

INTRODUCTION: The site for Grand View Subdivision Unit 2 is essentially the same as for Grand View Subdivision which was approved August 7, 1972, by the City of Augusta Planning Board. This report then supplements the original site evaluation report.

TOPOGRAPHY: Topographically, the proposed subdivision is situated on rolling terrain with slight to moderately steep slopes.

LAYOUT: The proposed layout as shown on plan sheet 2 occupies approximately 9.05 acres. That portion of Grand View Subdivision originally approved contains approvimately 8.82 acres. The two subdivisions combined occupy approximately 17.87 acres. The proposed subdivision consists of 13 lots which are 20,000 sq.ft. or larger in area and 3 lot additions to the previous subdivision.

UTILITIES AND SERVICES: Electric and telephone service is available along the West River Road. Water will be provided by individually drilled wells. Sanitary waste dieposal will be by individual septic disposal systems.

SOIL SUITABILITY: Map 11 of the Interim Soil Survey Report, City of Augusta, prepared by the Kennebec County Soil and Water Conservation District shows the soils of the area to be a Hartland very fine sandy loam and a Belgrade very fine sandy loam. The Hartland has a severe limitation for septic disposal because of slow to moderate permeability. The Belgrade also has a severe limitation for septic disposal due to slow permeability and a seasonal high water table.

Percolation tests taken by this office indicate good percolation rates except for hole No. 3 which had a rate of 35.40 minutes per inch (the water level dropped 1 1/2 inches in 53 minutes). The soils as shown by the new holes consist primarily of a sandy loam on top of a layer of silty sand. Deeper down, clays or silts are encountered. Excavations in the area show layers of sand or sandy gravel mixed with layers of clay down to approximately 5 feet below the ground.

In general, percolation tests in this area indicate that rates acceptable to the present State Plumbing code can be obtained.

Other soil characteristics indicate that the soil is adequate to support house foundations and the soil suitability for street subgradesare acceptable.

SUMMARY AND CONCLUSIONS: The area for the proposed development is less than twenty acres and is not subject to the authority of the Environmental Improvement Commission. The land is generally open and flat and the soil is generally acceptable for use in street construction. Water will be from individually drilled wells.

The general characteristics of the soils indicate that the use of septic tank sewage disposal is dependent upon percolation rate. The percolation tests indicate that the percolation rate will allow the effluent to percolate into the soil at an acceptable rate, so that in general, this area should support this method of disposal. Individual lot percolation tests will be necessary to insure disposal suitability prior to construction as individual lots may be found unsuitable.

PERCOLATION TEST RESULTS

Hole#	Hole Depth	Time		Depth of Water Surface		Elapsed Time	Total Drop of Water	Percol. Rate Minutes/Inch
		Start	Finish	Start	Finish			
1	32 in.	10:48	11:07	26 in.	30 in.	19 min.	4 in.	4.75 min/in.
2	32 in.	10:46	11:28	26 in.	25½ in.	42 min.	4 in.	10.50 min/in.
3	30 in.	10:37	11:30	24 in.	30 in.	53 min.	1½ in.	35.40 min/in.
4	32 in.	10:31	10:40	26 in.	30 in.	9 min.	4 in.	2.25 min/in.
						Average Rate		13.22 min/in.

For location see plan sheet ⊗

QUIRION, AIME

SUBMIT THE FOLLOWING COMPLETED FORM TO YOUR LOCAL PLUMBING INSPECTOR

DATE May 24, 1973
~~NUMBER OF BEDROOMS~~ Grand View Subdivision
~~SIZE OF SEPTIC TANK~~ Unit 2
TYPE OF SOIL Hartland & Belgrade Sandy Loam

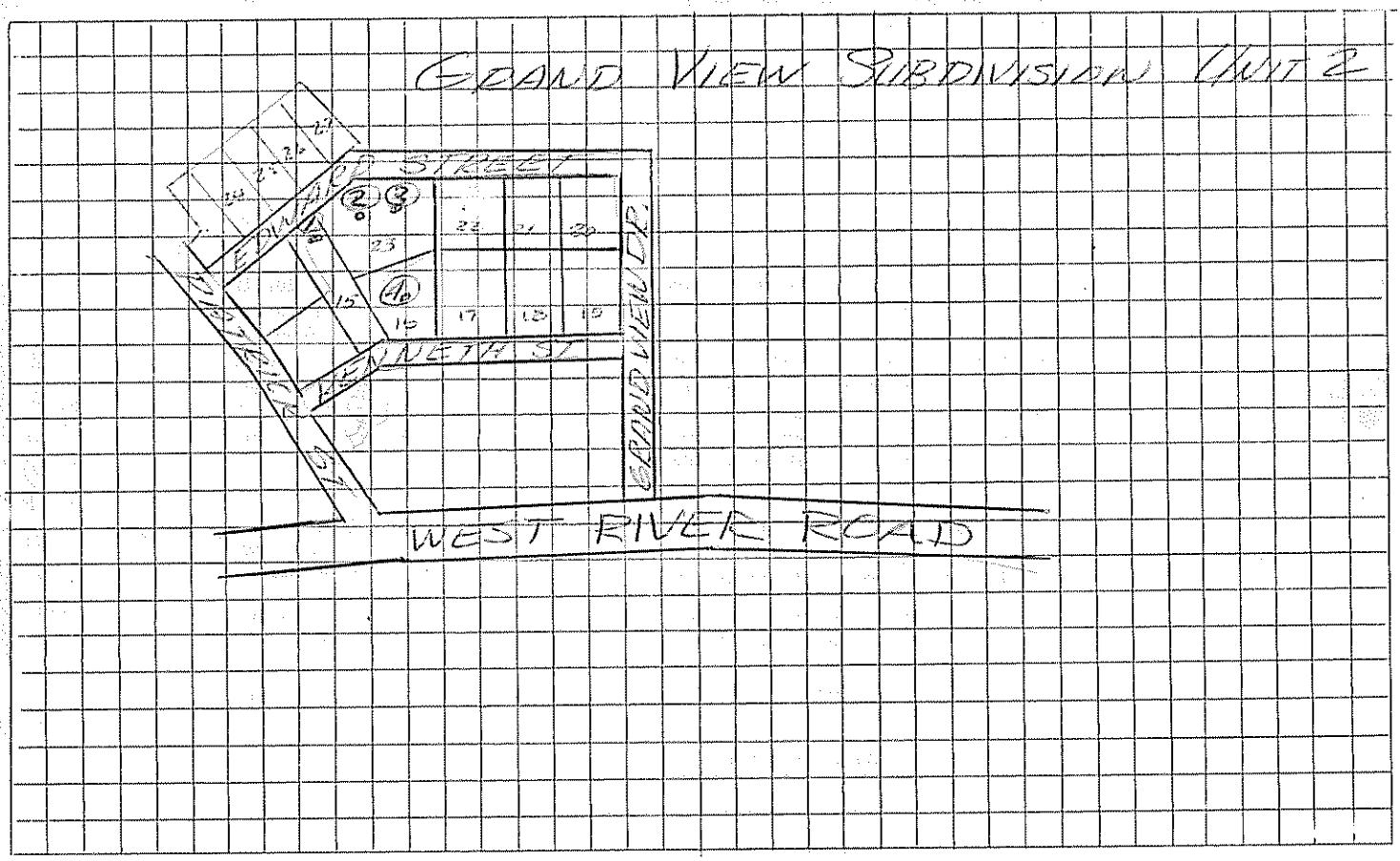
OWNER Aime Quirion
STREET West River Road
CITY Augusta MAINE
TEL. NUMBER

Test Performed by
L. Turnelle for H. R. Dexter (RE. CE.)

Local Plumbing Inspector's Signature
George L. Smith

LOCATION OF PROPOSED INSTALLATION
STREET West River Road
CITY Augusta MAINE
TEL. NUMBER

SKETCH: LOCATION OF BUILDING DISPOSAL SYSTEM, TERRAIN FEATURES, PERCOLATION HOLES, WATER SUPPLIES, ETC.



_____ Depth to Water Table
_____ Depth to Bedrock
_____ Depth to Clay or other impervious strata

REMARKS

HOLE	HOLE DEPTH	TIME		DEPTH OF WATER SURFACE		ELAPSED TIME	TOTAL DROP OF WATER	PERCOL. RATE MINUTES/INCH
		START	FINISH	START	FINISH			
#1	32 in.	10:48	11:07	26 in.	30 in.	19 min.	4 in.	4.75 min/in
#2	32 in.	10:46	11:28	26 in.	30 in.	42 min.	4 in.	10.5 min/in
#3	30 in.	10:37	11:30	24 in.	25½ in.	53 min.	1½ in.	35.40 min/in
#4	32 in.	10:31	10:40	26 in.	30 in.	9 min.	4 in.	2.25 min/in
						AVERAGE RATE		13.22 min/in

METHOD OF MAKING PERCOLATION TESTS

1.—NUMBER AND LOCATION OF TESTS. A sufficient number of tests as determined from Section 122 (G) shall be made in separate test holes spaced uniformly over the proposed subsurface absorption area.

2.—TYPE OF TEST HOLE. Dig or bore a hole, with horizontal dimenions of from 4 to 12 inches and vertical sides to the depth of the proposed absorption trench. In order to save time, labor, and volume of water required per test, the holes can be bored with a 4-inch auger.

3.—PREPARATION OF TEST HOLE. Carefully scratch the bottom and sides of the hole with a knife blade or sharp-pointed instrument, in order to remove any smeared soil surfaces and to provide a natural soil interface into which water may percolate. Remove all loose material from the hole. Add 2 inches of coarse sand or fine gravel to protect the bottom from scouring and sediment.

4.—SATURATION AND SWELLING OF THE SOIL. It is important to distinguish between saturation and swelling. Saturation means that the void spaces between soil particles are full of water. This can be accomplished in a short period of time. Swelling is caused by intrusion of water into the individual soil particle. This is a slow process, especially in clay-type soil, and is the reason for requiring a prolonged soaking period.

In the conduct of the test, carefully fill the hole with clear water to a minimum depth of 12 inches over the gravel. In most soils, it is necessary to refill the hole by supplying a surplus reservoir of water, possibly by means of an automatic syphon, to keep water in the hole for at least overnight. Determine the percolation rate 24 hours after water is first added to the hole. This procedure is to insure that the soil is given ample opportunity to swell and to approach the condition it will be in during the wettest season of the year. Thus, the test will give comparable results in the same soil, whether made in a dry or in a wet season.

5—PERCOLATION, RATE MEASUREMENT. With the exception of sandy soils, percolation-rate measurements shall be made on the day following the procedure described under item 4, above.

A. If water remains in the test hole after the overnight swelling period, adjust the depth to approximately 6 inches over the gravel. From a fixed reference point (a stick across the hole), carefully measure the time it takes for the water to drop four (4) inches.

B. If no water remains in the hole after the overnight swelling period add clear water to bring the depth of water in the hole to approximately 6 inches over the gravel. From a fixed reference point (a stick across the hole) carefully measure the time it takes for the water to drop four (4) inches.

6.—Find the percolation rate in minutes required for the water to drop one inch.

SAMPLE CALCULATION:

It takes 40 minutes for the water to drop 4 inches, so the PERCOLATION RATE is 40 minutes divided by 4 inches equals 10 minutes per inch.

THE PERCOLATION RATE IS

$$\frac{10 \text{ minutes/inch}}{4 \text{ inches } 40 \text{ minutes}}$$

Quirion, Aime

SITE EVALUATION REPORT

AIME QUIRION LAND

WEST RIVER ROAD

AUGUSTA, MAINE

Historical Summary

In 1970, my predessor, John Collins, started work which consisted of laying out lots on the property owned by Aime Quirion on the West River Road in Augusta. Mr. Collins prepared a plan, drawing number D-7X11, dated September 25, 1970, which showed the proposed layout of lots for Mr. Quirion. This plan was submitted to the Augusta Planning Board and received preliminary approval subject to the following comments:

1. Other lots to be numbered.
2. Percolation tests should be made.
3. Radius of curves to be shown.
4. Show where granite numbers should be placed.

The lots as shown in these plans consisted of 20,000 sq. ft. or more as required by state law when subsurface disposal is to be used as it must be in this case.

On June 14, 1971, Mr. Collins conducted percolation tests on lots 4 and 5. Two holes were dug and tested on each lot. The percolation rates were very fast. Both holes on lot 4 percolated at the rate of 1 3/4 minutes per inch. For lot No. 5, the holes percolated at the rate of 3 minutes per inch and 2 3/4 minutes per inch.

Mr. Collins' files have correspondence from Mr. Earl Tibbetts, Director, Division of Health Engineering, State Department of Health

and Welfare and Mr. Henry Warren, Chief, Bureau of Site Location, Environmental Improvement Commission. Mr. Warren's letter mentions That he was informed of this project by the Soil Conservation Service and the City of Augusta. He further states that tests indicate that The use of septic tanks would create problems for adjacent property owners because the effluent would run through sand layers in the ground and could surface before being cleaned. The letters from Mr. Tibbetts and Mr. Warren are included in Appendix 1.

My services were retained by Mr. Quirion in June, 1972, for doing additional survey work and preparation of a plan for suitable presentation to the City of Augusta and for filing at the Kennebec County Registry of Deeds.

After reviewing Mr. Collins' records, I contacted Mr. Warren of the Environmental Improvement Commission who said he had observed a test pit dug on Mr. Quirion's property along with representatives of the U.S. Soil Conservation Service and the Maine Soil and Water Conservation Commission with whom I also discussed this matter. The reports from all three were basically the same although none produced any written evidence. They reported that the material consisted of top soil consisting of a silty loam under lain by a silty clay. They did observe a layer or layers of fine gravel and sand between the silty loam and the clay which would be the reason for the rapid percolation rate observed by Mr. Collins. The representatives of the Soil Conservation Service remembered the hole as being a classic Buxton Silt loam with sandy seams in it.

Discussion - Soils maps - Soil Conservation Service

The soils mapping as extracted from the aerial photos on file in the Kennebec County office of the Soil Conservation Service indicate this area to consist of Hartland very fine sandy loam which is described in Appendix 2. These soild have a slow to moderate variable permeability and are rated as having a severe limitation for septic tanks. In areas where the permeability is slow, the soil would not allow effluent from septic tanks to percolate into the ground which would be unacceptable. In areas where the rate is moderate it is possible for the effluent to percolate into the soil at an acceptable rate. The possibility of using septic tanks, therefore, is entirely dependent on the results of percolation tests which might or might not fail. This area, therefore, is accpetable for house foundation. The rating of this material for use of construction of streets is poor because it is fine and highly susceptable to frost. This most likely would require good surface drainage and an adequate gravel base for any streets constructed.

There are areas immediately south of the area being developed which are still on Mr. Quirion's property which indicate a Buxton silt loam and Scantic Silt Loam. These soils have a very severe limitation for the use of septic sewage disposal. These soils have a severe limitation for house foundations and roadway construction.

North of the site the soils map shows an area of Hinckley gravelly sandy loam which is rated with a moderate limitation for septic tank usage and would be good for house foundations and street subgrades.

The problem with septic tank disposal in this soil is that percolation rate is too rapid and endangers the ground water.

The results of the soils map study indicates that the most predomenent soil, the Hartland, can have either a slow or moderate percolation rate and that percolation tests are necessary to indicate whether or not septic sewage disposal would be acceptable.

Percolation Tests

Five percolation tests were conducted and the results are tabulated in Table I. The locations of these tests are shown on the site plan.. The percolation rates obtained indicate that tne soil can absorb the effluent from septic tanks.

The layers of silty sand which could be called a dirty gravel were apparent in Test holes 3, 4, and 5. These holes gave the most rapid percolation rate. The effluent in these areas can travel in the sand layers or lenses as Mr. Warren suggests. The effluent percolating or traveling through the ground at this depth would be subject to the purification action of aerobic bacteria. The direction of this flow would be generally following the slope of the surface which is in the direction of the Kennebec River and it would appear that the possibility of the effluent surfacing does not exist until it reaches the bank next to the river, which is an area that will not be developed residentially.

Using the results of these percolation tests as being generally representative of the area being developed, Septic tank sewage disposal is an acceptable method. Should the density of the area increase in the future, public sewers should be constructed to serve the area.

Conclusions

1. The Soil Conservation Service Soils map classifies the soil in the area as a Hartland very fine sandy loam.

2. The general characteristics of the soils indicate that the use of septic tank sewage disposal is dependant upon the percolation rate.

3. The percolation tests indicate that the percolation rate will allow the effluent to percolate into the soil at an acceptable rate, so that in general this area should support this method of disposal. Percolation tests for each drainage field still have to be taken to insure local acceptability and for compliance with the Maine State Plumbing Code.

4. This soil in this subdivision is adequate for supporting house foundations.

5. For building streets a sufficient amount of granular base should be used because of the native material's frost susceptibility.

SUMMARY

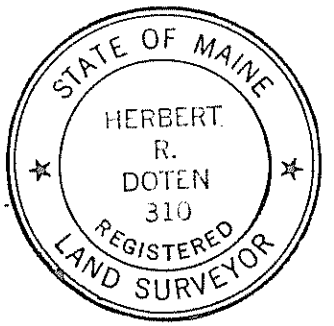
PERCOLATION TESTS

AIME QUIRION LAND

TAKEN ON ~~AUGUST~~ July 22, 1972

SEE PLAN FOR HOLE LOCATION

Hole	Hole Depth	Time		Depth of Water		Elapsed Time	Total Drop of water	Percol. Rate Minutes per inch	Remarks
		Start	Finish	Start	Finish				
1	30 in.	8:52	11:22	6 in.	19 in.	150 min.	13 in.	11.5 min/in.	0-16" ± Loam 16-30 Clay
2	27 in.	8:50	11:20	11 in.	22 in.	150 min.	11 in.	13.6 min/in.	0-18" ± Loam 18-27 Clay
3	31 in.	8:49	10:08	13 in.	29 in.	79 min.	16 in.	4.9 min/in.	0-15" ± Loam 15-31 Silty Sand Hole dry at 11:30
4	31 in.	8:47	10:36	6½ in.	24 in.	109 min.	17½ in.	6.2 min/in.	0-13" ± Loam 13-31 Silty Sand Hole dry at 11:30
5	31 in.	8:44	11:15	9 in.	25 in.	141 min.	16 in.	8.8 min/in.	0-8 " ± Loam 8-25 Silty Sand 25-31 Clay



STATE OF MAINE
ENVIRONMENTAL IMPROVEMENT COMMISSION
AUGUSTA, MAINE 04330

August 19, 1971

Mr. John L. Collins
12 Crosby Streeg
Augusta, Maine 04330

Dear Mr. Collins:

I have the memorandum which you wrote to the Health and Welfare Department with reference to the development of Mr. Quirion on West River Road in Augusta. In that letter you ask what right the Environmental Improvement Commission has to "horn in" on such a development.

First of all it should be pointed out that this Commission has taken no action upon this project and certainly has not turned it down as you suggest. In point of fact no application has been submitted. Secondly, the project was brought to our attention by the Soil Conservation Service and City of Augusta officials. It was their feeling that the project involved a land area in excess of 20 acres and for that reason I forwarded to Mr. Quirion. If, in fact the land area does not exceed 20 acres he should so inform this office and then would be exempted from the law.

Charley Bailey
Ken Strathern

I should further point out that the soils tests quite clearly indicate that the use of septic tanks on that parcel will create problems for adjacent property owners. Even though the percolation rate is rapid it appears likely from test pit analysis that the septic effluent will run along a lens in the soil below the percolation test level and run down hill and perk up before it is cleaned. You should investigate this possibility carefully before advising your client as to the action he should take.

If you have further questions please contact me at your convenience.

Sincerely,

HEWarren

Henry E. Warren, Chief
Bureau of Site Location

HEW:jll

71083

STATE OF MAINE
DEPARTMENT OF HEALTH AND WELFARE
AUGUSTA, MAINE 04330

DEAN FISHER, M. D.
COMMISSIONER

August 13, 1971

Mr. John R. Collins
12 Crosby Street
Augusta, ME 04330

Dear Mr. Collins:

In reviewing your recent note and attached forms, we find that you are not using the minimum design criteria set forth in the 1970 edition of the Maine State Plumbing Code. We are enclosing, for your information, copies of the plumbing code and our bulletin entitled "Private Sewage Disposal."

We are forwarding a copy of your note to the Environmental Improvement Commission so that they may explain what right or reason they have to "horn in" on the development you mentioned.

Very truly yours,

Earle W. Tibbetts

Earle W. Tibbetts, Director
Division of Health Engineering

REH/tma

Enclosures

cc: William Adams, EIC

State: Maine Date: October 1968 Soil: Hartland very fine sandy loam

TENTATIVE-Not coordinated and for limited local use only.

Map Symbol: 68 (60)

These are deep well drained silty soils formed in windblown or lakelaid deposits on the sides and floors of stream valleys. Slopes range from 2 to 60% but most areas of these soils lie on slopes of 9 to 25%. These Hartland soils have a brown very fine sandy loam surface layer and brownish or olive colored very fine sandy subsoil to depth greater than 5 feet. The lower subsoil typically has thin bands of silts and very fine sands. These soils are nearly free of stones or stone fragments. Depth to bedrock is greater than 5 feet. Depth to seasonal water table is more than 5 feet. Moisture holding for plants is very high. Permeability in the upper subsoil is moderate to rapid but permeability in the lower subsoil (3-4 feet) is moderate to slow. Acidity ranges from strongly to medium acid. Erodibility is high. Natural fertility is low to moderate but they respond well to fertilization. Susceptibility to frost is severe. They are easy to work and they dry rather quickly after rains. Cut banks are unstable and ditches are susceptible to piping. Bearing ratio is low. The unified classification is mainly ML.

ENGINEERING INTERPRETATIONS

Estimated Chemical and Physical Properties

General Soil Profile (Inches)	Classification			% of Material Passing			Permeability Inches per hr.	Available Water Capacity in/in	Soil Reaction (pH)	Shrink Swell Potential
	USDA Texture	Unified	AASHO	#4	#10	#200				
0-8	silt loam	ML	A-4	100	100	60-95	0.63-2.0	0.18-.25	5.0-6.0	Low
8-25	very fine sandy loam	ML	A-4	100	100	55-85	0.63-2.0	0.18-.25	5.0-6.0	Low
25-42	silt l & loamy v. fine sand	ML	A-4	100	100	55-80	0.20-2.0	0.18-.25	5.0-6.5	Low

Suitability as a source of topsoil is good; suitability as a source of sand and gravel is not suitable; suitability as a source of roadfill is poor.

SOIL LIMITATIONS FOR COMMUNITY PLANNING

Use	Slope	Limitation	Major Factors Affecting Use
Septic Sewage Disposal	A,B,C D,E	Severe Severe	Slow to moderate (variable) permeability. Slope; septic seepage.
Lagoon Sewage Disposal	A,B C,D,E	Severe Very Severe	Variable permeability; piping. Slope.
Dumps and Junk Yards	A,B,C D,E	Slight Severe	Steepness of slope; erodibility; stream contamination
Sanitary Land Fill	A,B,C D,E	Slight Severe	Steepness of slope.
Earth Covered Fallout Shelters	All	Slight	
House Bldg. with Septic Sewage Disposal (includes basement)	A,B,C D,E	Severe Severe	Slow to moderate (variable) permeability. Slope; erodibility; septic seepage.
House Bldg. with Public Sewage Disposal (includes basement)	A,B C D,E	Slight Moderate Severe	 Slope; erodibility. Slope; erodibility.
Pipe & Sewer Line - Const. & Maintenance	A,B C,D,E	Moderate Severe	Piping; trench walls; moderately stable. Steepness of slope; piping; moderate stability.
Cemeteries	A,B,C D,E	Slight Severe	Steepness of slope; erodibility.
Excavations	A,B,C D,E	Slight Severe	Steepness of slope; moderate stability.

State: Maine Date: September 1968 Soil: Buxton silt loam

TENTATIVE. Subject to updating.

Map Symbol: 65

These are deep, moderately well drained silty and clayey soils formed in fine textured sediments. They occupy gently sloping to rolling lake and marine terraces in the coastal counties and in the interior lowland along the Androscoggin River. Slopes range from 0 to 15 percent. Typically these soils have 12 to 18 inches of friable yellowish silt loam over silty clay loam. Stones or coarse fragments of any kind are uncommon. Depth to bedrock is more than 6 feet. Moisture holding for plants is high. Permeability of the substratum is slow to very slow. Reaction is strongly acid in the surface but ranges to slightly acid in the substratum. Susceptibility to frost is high. The surface dries slowly after rains and is sticky and plastic. The substratum has low sheer strength and low bearing capacity when wet in addition to being very sticky and very plastic. Erodibility is high on the moderately steep slopes. Natural fertility is low but productivity is moderate. The unified classification is principally ML for the surface and CL for the substratum.

ENGINEERING INTERPRETATIONS

Estimated Chemical and Physical Properties

General Soil Profiles (Inches)	Classification			% of Material Passing			Permeability	Available Water Capacity	Soil Reaction	Shrink Swell Potential
	USDA Texture	Unified	AASHO	#4	#10	#200	Inches per hr.	In/in	(pH)	
0-18	silt loam	ML, CL	A-4 A-6 A-7	100	95-100	70-95	0.63-2.0	0.18-0.25	5.0-6.5	Moderate
18-36	silty clay loam	ML, CL	A-4 A-6	100	95-100	80-100	< 0.2	0.16-0.20	5.0-6.0	Moderate

Suitability as a source of topsoil is fair; the material is not suitable as a source of sand and gravel; suitability as a source of roadfill is poor.

SOIL LIMITATIONS FOR COMMUNITY PLANNING

Use	Slope	Limitation	Major Factors Affecting Use
Septic Sewage Disposal	All	Very severe	Very slow permeability.
Lagoon Sewage Disposal	A	Slight	
	B	Moderate	Slope.
	C	Severe	Slope.
Dumps and Junk Yards	A,B	Slight	
	C	Moderate	Slope.
Sanitary Land Fill	All	Severe	Very slow permeability; rapid ponding and overflow of contaminated waters into surface streams.
Earth Covered Fallout Shelters	A	Very severe	Very slow permeability; rapid ponding of water; seasonal high water table.
	B,C	Severe	Very slow permeability; seepage; unstable when wet.
House Bldg. with Septic Sewage Disposal (Includes basement)	All	Very severe	Very slow permeability; seasonal high water table; unstable when wet; high frost susceptibility.
House Bldg. with Public Sewage Disposal (includes basement)	All	Severe	Seasonal high water table; high frost susceptibility; unstable when wet.
Pipe & Sewer Lines - Constr. & Maintenance	All	Severe	Seasonal high water table; unstable when wet.
Cemeteries	All	Severe	Seasonal high water table; impervious clay subsoil; seasonal wetness.
Excavations	All	Very severe	Seasonal high water table; impervious clay substratum; unstable when wet.

UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, in cooperation with MAINE AGRICULTURAL EXPERIMENT STATION, UNIVERSITY OF MAINE and MAINE SOIL AND WATER CONSERVATION COMMISSION -- National Cooperative Soil Survey - USA

State: Maine Date: October 1968 Soil: Scantic silt loam

TENTATIVE-Not coordinated and for limited local use only. Map Symbol: 44

These soils are deep poorly drained silt loams over very firm marine and lacustrine deposits of silts and clays. These soils occur in small depressions and nearly level to gently undulating lowlands of the coastal and inland waterways. The Scantic soils generally contain no coarse fragments greater than 2 mm. They have 12 inches to 16 inches of grayish brown silty surface layer that is underlain by a silty clay loam or silty clay subsoil. Below the subsoil is a very firm silt and clay substratum. These marine and lacustrine deposits generally range from 6 to 20 feet thick. The water table is about 1 foot or less below the surface for 9 months each year. Slopes range from 0-8%. Permeability is very slow. The soil reaction ranges from slight to strongly acid, but is usually neutral at depths of three feet and below. Natural fertility is low. Moisture for plants is very high to excessive. Susceptibility to frost is severe. Compressibility is slight. Shear strength is low. Workability is poor. Bearing ratio is low. The soil, subsoil, and substratum is highly sticky and plastic especially when wet. It ranges from organic silts and clay (OL, OH) in the surface to silts and clays (ML, CL, MH, CH) in the subsoil and substratum.

ENGINEERING INTERPRETATIONS

Estimated Chemical and Physical Properties

General Soil Profile (Inches)	Classification			% of Material Passing			Permeability	Available Water Capacity	Soil Reaction	Shrink Swell Potential
	USDA Texture	Unified	AASHO	#4	#10	#200	Inches per hr.	in/in	(pH)	
0-13	silt loam	OL, OH, ML, MH	A-4,5 A-7	100	100	85-100	0.20-0.63	0.25-0.30	5.0-6.5	Low
12-60	silty clay & clay	ML, MH, CL, CH	A-4,6 A-7	100	100	90-100	<0.20	0.12-0.20	5.5-6.5	Low

Suitability as a source of roadfill is poor; the material is not suitable as a source of sand and gravel; the material is not suitable as a source of roadfill.

SOIL LIMITATIONS FOR COMMUNITY PLANNING

Use	Slope	Limitation	Major Factors Affecting Use
Septic Sewage Disposal	A,B	Very Severe	High water table; very slow permeability.
Lagoon Sewage Disposal	A B	Slight Moderate	Steepness of slope.
Dumps and Junk Yards	A,B	Severe	High water table; excess wetness; surface stream pollution; poor trafficability.
Sanitary Land Fill	A,B	Very Severe	High water table; excess wetness; surface stream pollution; poor trafficability and workability.
Earth Covered Fallout Shelters	A,B	Very Severe	High water table; excess wetness; difficult to drain; high frost susceptibility; low bearing ratio.
House Bldg. with Septic Sewage Disposal (includes basement)	A,B	Very Severe	High water table; excess wetness; very slow permeability; high frost susceptibility; low shear strength and bearing ratio.
House Bldg. with Public Sewage Disposal (includes basement)	A,B	Severe	High water table; excess wetness; high frost susceptibility; low shear strength and bearing ratio.
Pipe & Sewer Lines - Const. & Maintenance	A,B	Severe	High water table; heavy clay substratum; low shear strength; low bearing ratio.
Cemeteries	A,B	Severe	High water table; heavy clay substratum; seasonal wetness.
Excavations	A,B	Very Severe	High water table; sticky and plastic substratum.