NUTRIENT MANAGEMENT PLAN

Lakeside at Trappe

JUNE 2, 2020

Spray Irrigation

Nutrient Management Plan

Prepared For

Trappe East Holdings Business Trust
c/o Rauch, Inc.
Easton, Maryland

Environmental Management SolutionsLLC

Salisbury Maryland

Contents

Introduction

Restoration of the Chesapeake Bay has been a goal for the State of Maryland for over 30 years. The nutrients nitrogen and phosphorous have made their way into the Bay contributing to the eutrophication of the waters, reducing oxygen levels and contributing to the decline in water quality. Maryland has taken several legislative, regulatory, and voluntary steps to control nutrient loading to the Chesapeake Bay.

Nitrogen and phosphorous are elemental and therefore cannot be created nor destroyed, they can only be managed. No more nitrogen and phosphorous are on the earth than when it was created, but their distribution can present problems. Effective management is the key to reducing the amount of nitrogen and phosphorous entering the Chesapeake Bay. By removing the nutrients from one environmental media (water), there are only two other environmental media (land and air) in which they can be managed.

The Maryland *Water Quality Improvement Act of 1998 (WQIA)*[1] requires all agricultural operations grossing more than $2,500 or more annually to have a nutrient management plan and to submit certain parts of the plan to the Maryland Department of Agriculture (MDA). While Lakeside at Trappe is not an agricultural operation within the definitions of the WQIA, the project will provide for disposal of all or substantially all of its treated wastewater via groundwater discharge. The disposal of treated effluent via spray irrigation provides many benefits, including, surface aquifer recharge, reduction in the concentrations of BOD, total suspended solids, and nutrients responsible for acceleration of eutrophication. As wastewater percolates through the soil profile, nutrients removed by the soils are available to support growth of vegetation on the spray site, and protection of surface water quality by providing an alternative (seasonal or permanent) to stream discharge. Land application is "proven to be both a feasible and an effective method of renovating and recycling wastewater."[2] In fact, State law requires the Maryland Department of the Environment (MDE) to "encourage the use of reclaimed water as an alternative to discharging wastewater effluent into surface waters and authorizes the Department to establish buffer and setback requirements for the use of reclaimed water."[3]

Lakeside at Trappe will be developed as a mixed-use community within the Town of Trappe, Talbot County, Maryland. The project will contain a 30-acre lake, commercial uses, and 2,501 residential dwelling units. Residences and commercial uses will be connected to a central wastewater treatment system which will treat wastewater to Enhance Nutrient Removal (ENR) standards. The treated wastewater will be disposed of through groundwater discharge via spray irrigation.

[1] Code of Maryland Regulations (COMAR) Title 15 Agriculture Article 15.20.06.01
[2] Maryland Department of the Environment Guidelines for Land Application/Reuse of Treated Municipal Wastewaters, 2010.
[3] *Id.; see also* Maryland Code Ann., Environment, § 9-303.1

This NMP is required by MDE in conjunction with the operation of the Lakeside wastewater system. MDE requires numerous components to be contained within the NMP that are not traditionally part of a regular MDA NMP. Therefore, this document is an expanded NMP which complies with the requirement of the WQIA and the materials relevant to MDE review and approval. The NMP, as amended from time to time, will become part of the Operations Manual for the wastewater disposal system.

This NMP is intended to address the initial operation of the Lakeside wastewater system. This NMP will be submitted to the MDA for review and will be updated every three (3) years or more frequently if the vegetation on the spray fields are changed, any other significant change as outlined in the Maryland Nutrient Management Regulations occurs, or in accordance with specific conditions of the anticipated MDE groundwater discharge permit.

Nutrient Management Plan Reporting Form

Maryland Department of Agriculture
Office of Resource Conservation

Part A: Farmer/Operator Information

Name: Trappe East Holdings Business Trust
Street: c/o Rauch, Inc.
106 N. Harrison Street
Easton, Maryland 21601

Part B: Farm Information

Account ID's: 03-160084
03-115011

Acres: 110 (including Reserve Area)

Watershed Code: 02130404

Watershed Area: Choptank

Total Farmland/Operation: 87.6 acres – 68 acres tilled, 19.6 acres forest (*excluding* Reserve Area)

Nutrient Sources(s): Chemical ___ Biosolid ___ Animal Manure XX Other (spray irrigation of wastewater)

Type of Operation: ___ Crop Production ___ Nursery/Container ___ Livestock XX Other (spray irrigation of wastewater)

Number of Animals: ___ Dairy ___Beef ___Swine ___Poultry ___Horse ___Other

Manure Storage Area: ___Yes ___No

Excess Manure: ___Yes ___No Quantity/Year ___

Part C: Plan Information

Plan Type: **XX** New ___ Updated

Date Written (Month/Year): April 2020

Plan Period (Month/Year): 3 years

Cost Share Plan: ___Yes **XX** No

Acreage Managed Under the Plan: 110 (including Reserve Area)

Parts Submitted Under the Plan

Maps: **XX** Yes ___No

Soil Tests: **XX** Yes ___No

Part D: Consultant Information

Consultant's Name: John K. Chlada Certificate Number: 4172
Agency/Company: Environmental Management Solutions LLC
License Number: 2349

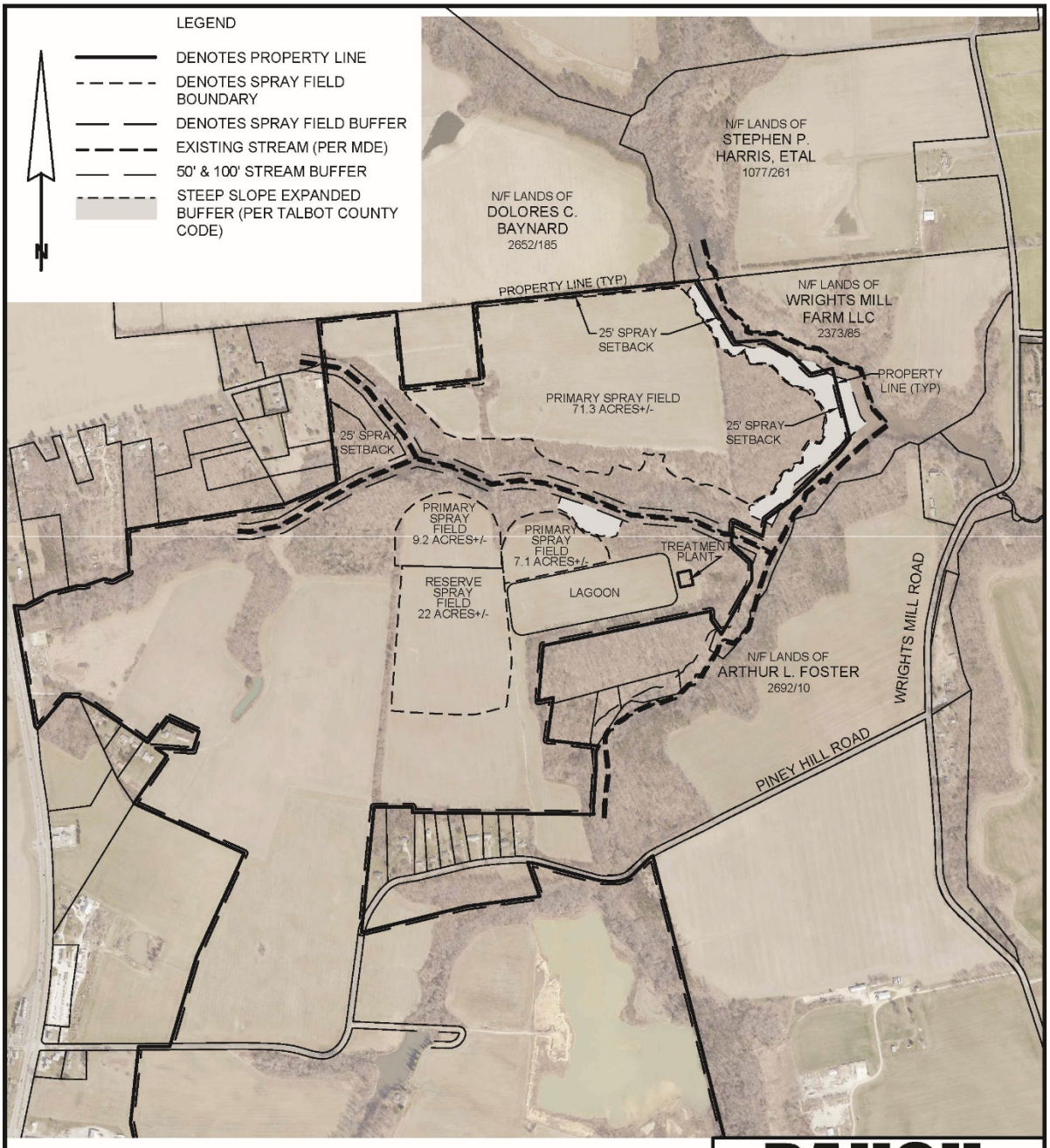
Part E: Farmer/Operator Signature

The above information is true and accurate to the best of my knowledge. I agree to allow the Maryland Department of Agriculture to review my records and visit my operation to evaluate compliance with the nutrient management regulatory requirements of the Water Quality Improvement Act of 1998. I also agree to allow the Maryland Department of the Environment to review my records and visit my operation to evaluate compliance with applicable Maryland Department of the Environment groundwater disposal permit(s) when spray irrigation of treated effluent commences.

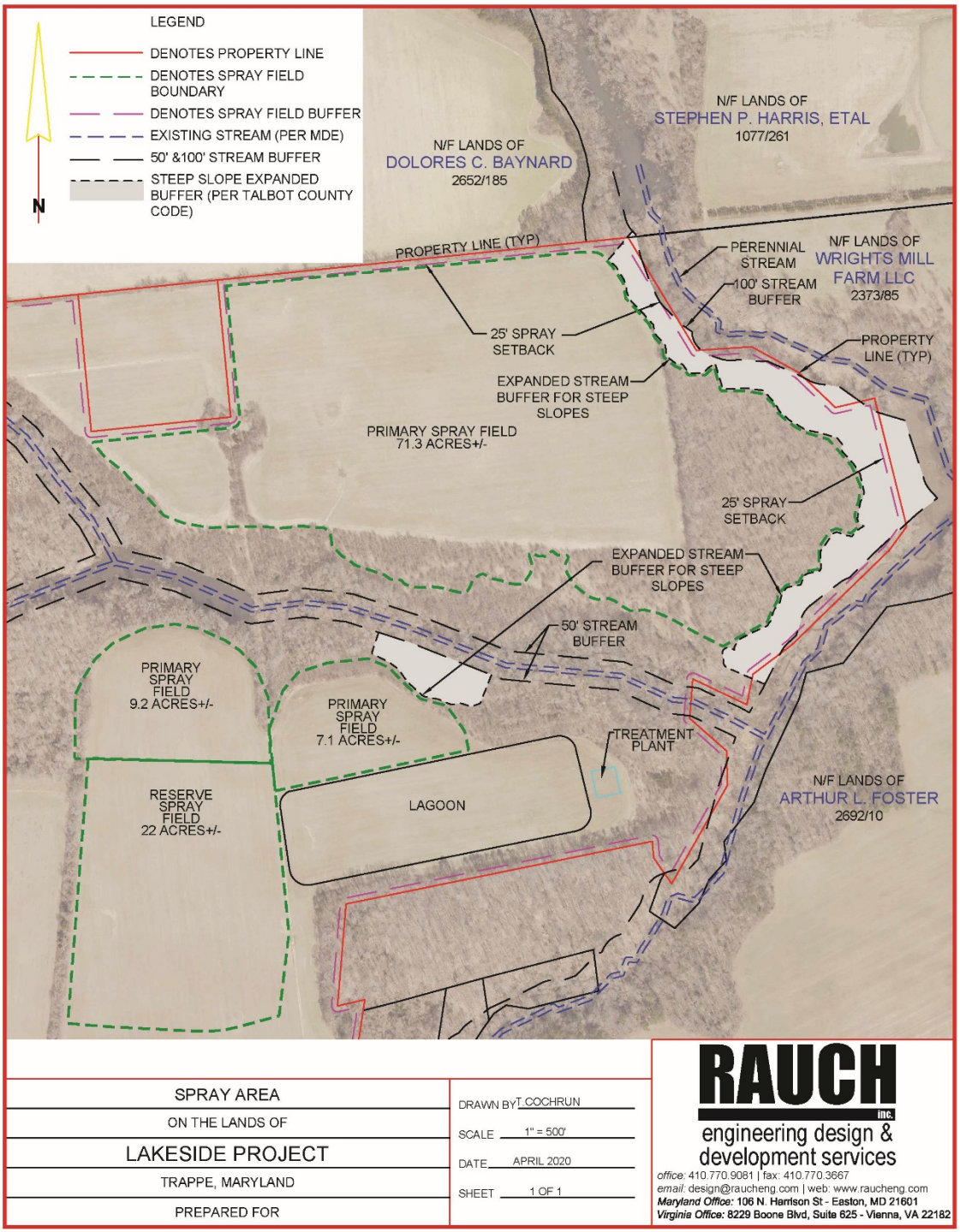
Signature: _____ Date: _____

General Area Map

Property Boundaries

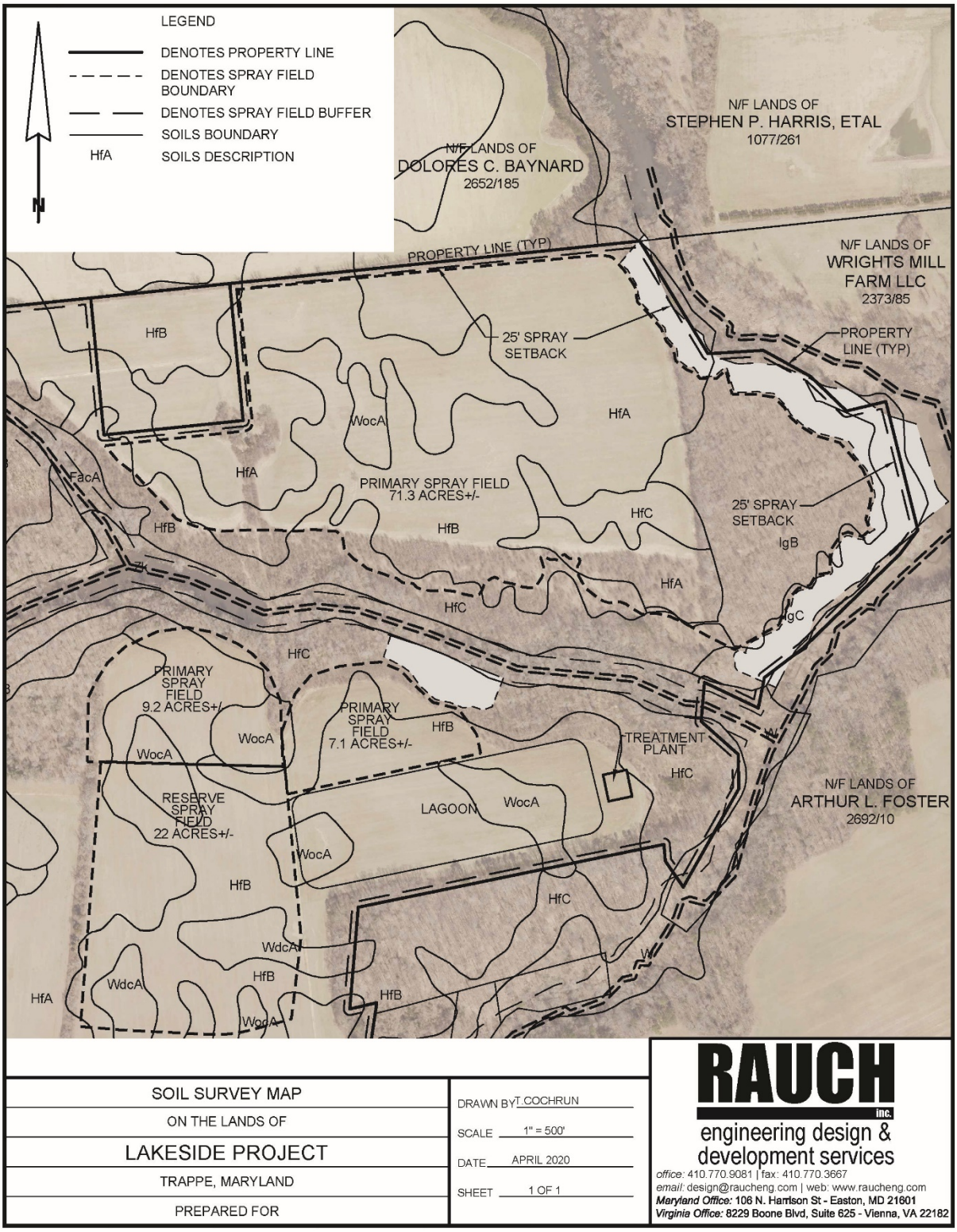


Spray Fields and Lagoon Locations



Primary Spray Fields – 87.6 acres
Reserve Spray Field – 22 acres
Total Spray Fields Available – 109.6 acres

Soil Survey – Soil Types



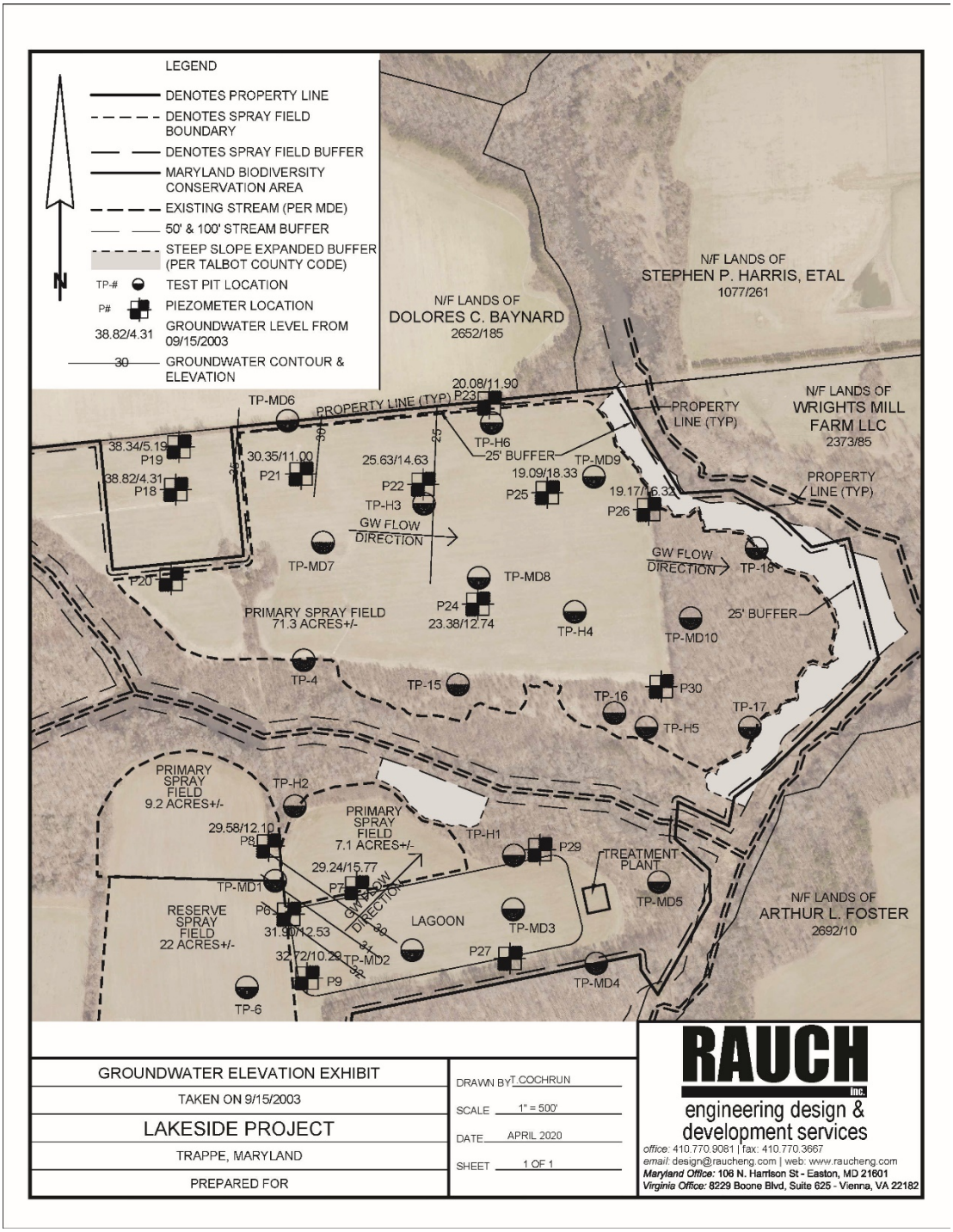
Soil Type Descriptions

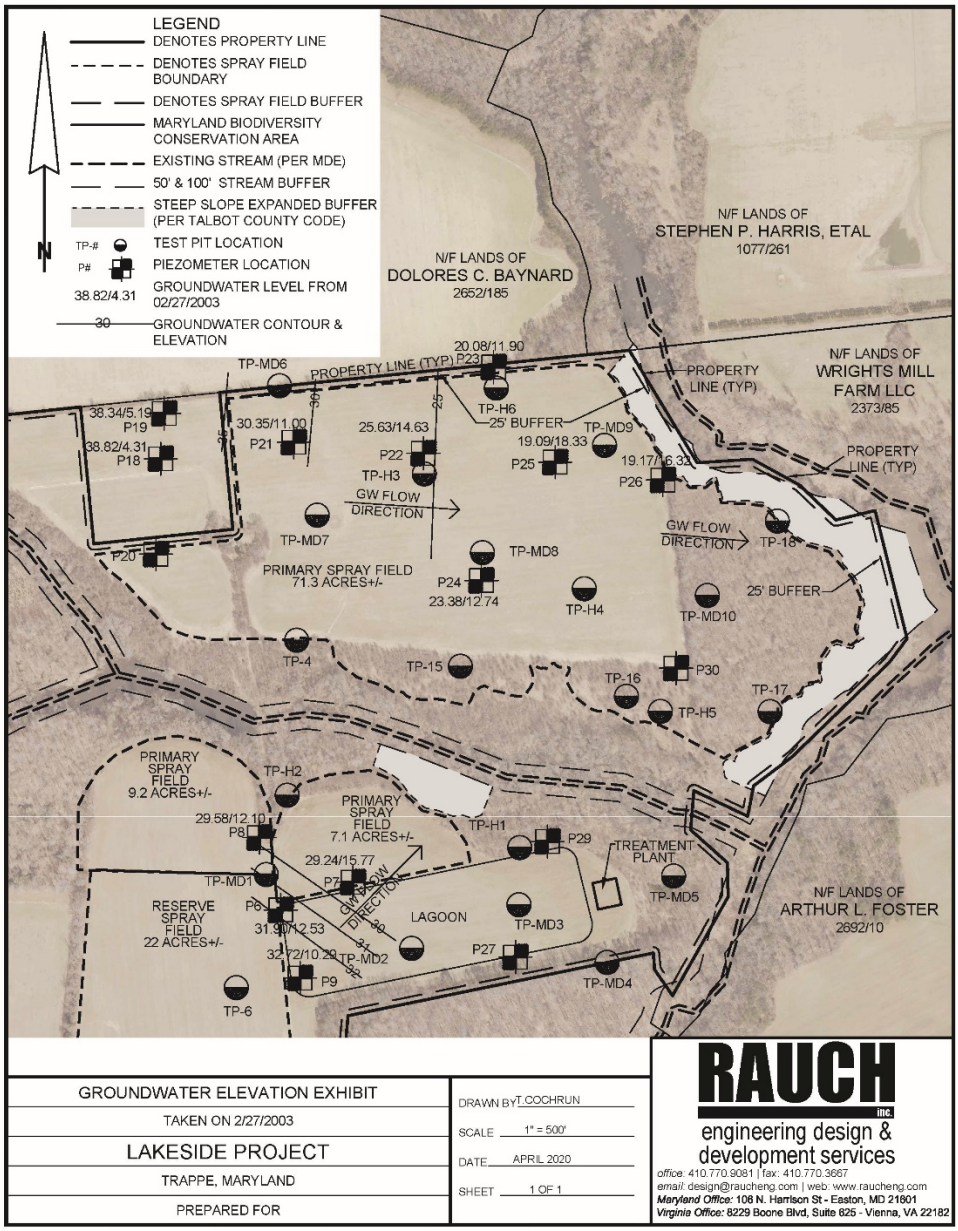
Talbot County, Maryland (MD041)

Map Unit Symbol	Map Unit Type
FaA	Fallsington sandy loam, 0 to 2 percent slopes
HbA	Hambrook sandy loam, 0 to 2 percent slopes
HfA	Hambrook-Sassafras complex, 0 to 2 percent slopes
HfB	Hambrook-Sassafras complex, 2 to 5 percent slopes
HfC	Hambrook-Sassafras complex, 5 to 10 percent slopes
IgB	Ingleside sandy loam, 2 to 5 percent slopes
WdA	Woodstown sandy loam, 0 to 2 percent slopes
WoA	Woodstown loam, 0 to 2 percent slopes

Soil Sample Locations and Ground Water Elevations

Soil samples were collected on December 5, 2019 and analyzed by ArgoLab of Harrington, Delaware. At total of 15 soil samples were collected from both the primary spray fields and the reserve area spray field. The locations of the soil samples are shown below.




LEGEND
DENOTES PROPERTY LINE
DENOTES SPRAY FIELD BOUNDARY
DENOTES SPRAY FIELD BUFFER
MARYLAND BIODIVERSITY CONSERVATION AREA
EXISTING STREAM (PER MDE)
50' & 100' STREAM BUFFER
STEEP SLOPE EXPANDED BUFFER (PER TALBOT COUNTY CODE)
TP-# TEST PIT LOCATION
P# PIEZOMETER LOCATION
38.82/4.31 GROUNDWATER LEVEL FROM 02/27/2003
30 GROUNDWATER CONTOUR & ELEVATION
N
N/F LANDS OF STEPHEN P. HARRIS, ETAL 1077/261
N/F LANDS OF DOLORES C. BAYNARD 2652/185
N/F LANDS OF WRIGHTS MILL FARM LLC 2373/85
N/F LANDS OF ARTHUR L. FOSTER 2692/10
PROPERTY LINE (TYP)
25' BUFFER
TP-MD6
TP-MD7
TP-MD8
TP-MD9
TP-MD10
TP-MD1
TP-MD2
TP-MD3
TP-MD4
TP-MD5
TP-H1
TP-H2
TP-H3
TP-H4
TP-H5
TP-H6
TP-4
TP-6
TP-15
TP-16
TP-17
TP-18
P18
P19
P20
P21
P22
P23
P24
P25
P26
P27
P29
P30
38.34/5.19
38.82/4.31
30.35/11.00
25.63/14.63
20.08/11.90
19.09/18.33
19.17/6.33
23.38/12.74
29.58/12.10
29.24/15.77
31.90/12.53
32.72/10.29
PRIMARY SPRAY FIELD 71.3 ACRES+/-
PRIMARY SPRAY FIELD 9.2 ACRES+/-
PRIMARY SPRAY FIELD 7.1 ACRES+/-
RESERVE SPRAY FIELD 22 ACRES+/-
GW FLOW DIRECTION
LAGOON
TREATMENT PLANT
GROUNDWATER ELEVATION EXHIBIT
TAKEN ON 2/27/2003
LAKESIDE PROJECT
TRAPPE, MARYLAND
PREPARED FOR
DRAWN BY T.COCHRUN
SCALE 1" = 500'
DATE APRIL 2020
SHEET 1 OF 1
RAUCH inc.
engineering design & development services
office: 410.770.9081 | fax: 410.770.3667
email: design@raucheng.com | web: www.raucheng.com
Maryland Office: 108 N. Harrison St - Easton, MD 21601
Virginia Office: 8229 Boone Blvd, Suite 825 - Vienna, VA 22182

Soil Sample Analyses

AgroLab
Serving Agriculture and Soil Fertility Professionals

Account No. : 1264

MCFADDEN, KEN
RAUCH INC
110 N WASHINGTON STREET
EASTON MD 21601

Soil Analysis Report

Invoice No. : 1116379
Date Received : 12/05/2019
Date Analyzed : 12/06/2019

Results For : RAUCH INC
Location : TRAPPE EAST

Sample ID / Lab No.	Soil pH 1:1	Buffer pH	Soluble Salts 1:2 mmho/c	Organic Matter %	NH4-N ppm	Depth NH4-N Lbs N/A	NO3-N ppm	Depth Nitrate Lbs N/A	Phos Sat Ratio	Mehlich 3 Phosphorus ppm P / FIV	K ppm	Ca ppm	Mg ppm	Na ppm	SO4-S ppm	Zn ppm	Fe ppm	Mn ppm	Cu ppm	B ppm	C.E.C. meq / 100g	% Base Saturation H	K	Ca	Mg	Na
1						0 - 8 in		0 - 8 in																		
22584	6.2	6.9		2.3	4.5	11	5.0	12	31	87	195	390	54								3.3	12	15	59	14	0
2						0 - 8 in		0 - 8 in																		
22585	6.0	6.9		1.5	3.1	7	2.0	5	52	138	118	280	45								2.4	14	12	58	15	0
3						0 - 8 in		0 - 8 in																		
22586	6.1	6.8		4.1	4.0	10	4.8	11	11	22	85	510	90								4.1	13	5	63	18	0
4						0 - 8 in		0 - 8 in																		
22587	6.2	6.9		1.8	2.8	7	2.7	7	35	104	146	250	49								2.3	11	16	54	18	0
5						0 - 8 in		0 - 8 in																		
22588	6.4	6.8		3.9	10.4	25	1.0	2	10	26	137	880	175								6.8	8	5	65	22	0
6						0 - 8 in		0 - 8 in																		
22589	6.5	6.9		2.0	3.8	9	3.8	9	22	62	243	350	54								3.0	7	20	57	15	0
7						0 - 8 in		0 - 8 in																		
22590	6.4	6.9		3.9	7.3	18	0.8	2	25	66	393	500	138								5.1	9	20	48	23	0
8						0 - 8 in		0 - 8 in																		
22591	6.2	6.9		1.9	2.5	6	1.1	3	43	129	231	360	58								3.3	12	18	55	15	0
9						0 - 8 in		0 - 8 in																		
22592	6.3	6.9		2.4	5.3	13	1.8	4	33	97	225	400	56								3.4	11	17	58	14	0
10						0 - 8 in		0 - 8 in																		
22593	6.1	6.9		1.4	5.0	12	1.0	2	21	43	171	300	46								2.7	12	17	57	14	0
11						0 - 8 in		0 - 8 in																		
22594	6.6	7.0		1.3	4.5	11	1.4	3	20	44	186	300	44								2.5	7	19	59	15	0
12						0 - 8 in		0 - 8 in																		
22595	5.3	6.8		2.3	6.5	16	11.3	27	46	159	155	280	38								3.1	31	13	46	10	0
13						0 - 8 in		0 - 8 in																		
22596	6.4	6.9		1.4	3.0	7	2.2	5	36	85	133	300	45								2.4	8	14	62	15	0
14						0 - 8 in		0 - 8 in																		
22597	6.8	6.9		1.3	3.9	9	3.0	7	39	85	130	460	64								3.3	5	10	69	16	0

Reviewed By: W.R. Rohrer - AgroLab Inc.

Copy : 1 **12/6/2019** **Page 1 of 2**

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www.agrolab.us
101 Clukey Dr.
Harrington, DE 19952

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15						0 - 8 in		0 - 8 in																		
22598	7.1	7.0		1.5	4.6	11	1.9	4	58	137	99	610	96								4.3	3	6	72	19	0

Calculations of Nutrients in the Waste Water

Irrigation Acreage Requirements - Full Development				
Gallons per CuFt			7.48	Gal
Irrigation Rate per Week			2.00	in.
Winter Period	16-Dec	1-Mar		
Days of Storage			75.00	Days
Days for irrigation			290.00	Days
Weeks of Irrigation			41.43	Weeks
Volume of irrigation per Acre			7,260.00	CuFt
Gallons/Acre/Week			54,304.80	Gal
Wastewater Disposal			540,000.00	Gal/Day
Volume of Storage			40,500,000.00	Gal
Weekly Rate of Irrigation During Spray Period				
Daily Flow per Week			3,780,000.00	Gal
Flow from Srorage per Week			977,586.21	Gal
Total Flow per Week During Spray Period			4,757,586.21	Gal
Acres required for Irrigation During Spray Period			**87.61**	**Acres**
Irrigation Acreage Requirements - Start-up Phase				
Gallons per CuFt			7.48	Gal
Irrigation Rate per Week			2.00	in.
Winter Period	16-Dec	1-Mar		
Days of Storage			75.00	Days
Days for irrigation			290.00	Days
Weeks of Irrigation			41.43	Weeks
Volume of irrigation per Acre			7,260.00	CuFt
Gallons/Acre/Week			54,304.80	Gal
Wastewater Disposal			30,000.00	Gal/Day
Volume of Storage			2,250,000.00	Gal
Weekly Rate of Irrigation During Spray Period				
Daily Flow per Week			210,000.00	Gal
Flow from Srorage per Week			54,310.34	Gal
Total Flow per Week During Spray Period			264,310.34	Gal
Acres required for Irrigation During Spray Period			**4.87**	**Acres**
Nutrient Load Constants				
1 milligram =			0.0003527	ounces
1 milligram =			0.0000022	pounds
1 liter =			0.26417205	gallons
1 gallon =			3.79	liters
Nitrogen Calculations - Full Development				
Effluent Nitrogen Concentration			3	mg/l
Effluent Nitrogen Load/Liter			0.0000066	#/L
Effluent Nitrogen Load/Gal			0.000025	#/Yr
Total Nitrogen Load per Year			4,924.3	#/yr
Total Nitrogen per Acre per Year			**56.2**	**#/Ac**
Nitrogen Calculations -Start-up				
Effluent Nitrogen Concentration			3	mg/l
Effluent Nitrogen Load/Liter			0.0000066	#/L
Effluent Nitrogen Load/Gal			0.000025	#/Yr
Total Nitrogen Load per Year			273.75	#/yr
Total Nitrogen per Acre per Year			**56.2**	**#/Ac**
Phosphorus Calculations - Full Development				
Effluent Phosphorus Concentration			0.3	mg/l
Effluent Phosphorus Load/Liter			0.00000066	#/L
Effluent Phosphorus Load/Gal			0.0000025	#/Yr
Total Phosphorus Load per Year			492.8	#/yr
Total Phosphorus per Acre per Year			**5.6**	**#/Ac**
Phosphorus Calculations -Start-up				
Effluent Phosphorus Concentration			0.3	mg/l
Effluent Phosphorus Load/Liter			0.00000066	#/L
Effluent Phosphorus Load/Gal			0.0000025	#/Yr
Total Phosphorus Load per Year			27.4	#/yr
Total Phosphorus per Acre per Year			**5.6**	**#/Ac**

Crop Selection and Nutrient Recommendations

Crop Selection and Nutrient Recommendations
EPA Process Design Manual
Land Treatment of Municipal Wastewater October 1981

TABLE 4-11
NUTRIENT UPTAKE RATES FOR SELECTED CROPS
(Table modified to include conversion to lbs/acre values. Potassium values were deleted)

	Nitrogen		Phosphorus	
	kg/ha*yr	lbs/acre*yr	kg/ha*yr	lbs/acre*yr
Forage crops				
Alfalfa[a]	225-540	200-480	22-35	20-31
Bromegrass	130-225	116-200	40-55	36-49
Coastal bermudagrass	400-675	356-601	35-45	31-40
Kentucky bluegrass	200-270	178-240	45	40
Quackgrass	235-280	209-249	30-45	27-40
Reed canarygrass	335-450	298-400	40-45	36-40
Ryegrass	200-280	178-249	60-85	53-76
Sweet clover[a]	175	156	20	18
Tall fescue	150-325	134-289	30	27
Orchardgrass	250-350	222-311	20-50	18-45

Conversion of kg/ha per year to lbs./ac. per year
1 kg = 2.21 lbs.
1 ha = 2.471 acres
1kg/ha = .890 lbs./acre

The 2006 updated version of the EPA Design Process Manual notes:

"the highest uptake of nitrogen, phosphorus, and potassium can generally be achieved by perennial grasses and legumes. It should be recognized that whereas legumes normally fix nitrogen from the air, they will preferentially take up nitrogen from the soil-water solution if it is present. The potential for harvesting nutrients with annual crops is generally less than with perennials because annuals use only part of the available growing season for growth and active uptake. Alfalfa removes nitrogen and potassium in larger quantities and at a deeper rooting depth than most agricultural crops."

The nutrient recommendations and crop selection represent the initial startup and operation of the WWTP. Startup of the WWTP is planned for 30,000 gallons of wastewater per day with increasing amounts of wastewater based on the number of houses constructed. The Nutrient Management Plan will be reevaluated every three (3) years to adjust for the current soil conditions and soil analysis. Crop types will also be reconsidered during the reevaluation. Orchardgrass will be planted and maintained for the start-up phase of the project. The orchard grass will be maintained as pasture and periodically mowed as necessary. Mowed residue will be removed from the fields to prevent the reintroduction of nutrient in the harvested grasses to the spray field. Orchardgrass is moderately tolerant to drought, wet conditions and low pH. It is winter tolerant and can tolerate frequent harvesting. Orchard grass is well adapted to the better well-drained soils. Orchardgrass is a versatile grass and can be used for pasture, hay, green chop, or silage. The nitrogen and phosphorous demands of orchardgrass exceed the nutrient contribution from the treated wastewater. Additional fertilization may be required to maintain a healthy ground cover. Additional fertilization will not exceed the nutrient requirements of the grass or result in an increase in nutrients below the root zone. The initial establishment of the phase 1 spray irrigation area in orchardgrass will be maintained for up to 3 years. Other silage grasses may be rotated to existing and future spray fields as recommended in subsequent nutrient management plan updates.

It is anticipated that the initial 30,000 gal/day of wastewater will be sufficient through 2023 and managed under these initial nutrient management plan recommendations. It would also be anticipated that the crop recommendations and nutrient recommendations would also be viable for the 2nd phase and 3rd phase of development based on current soil conditions and soil analysis.
The crop recommendations are all similar and the variety of similar recommendations are based on seed availability and season of planting at initial start-up. Crop recommendations are for grasses and conventional cover crops. These types of crops have several advantages including:

- ✓ Excellent root structure for greater absorption of water and nutrients
- ✓ Excellent root structure to aid in sediment and erosion control
- ✓ Ease of planting
- ✓ Low maintenance
- ✓ Creation of natural habitat

As additional houses are constructed and occupied, the daily amount of wastewater will increase. As such, the amount of land need for disposal will also increase. The final amount of wastewater generated will be 540,000 gals/day. At final buildout, the 540,000 gals/day of wastewater will need approximately 87.6 acres of land for proper disposal.

As the volume of wastewater increases, revaluation of the nutrient management plan will be needed to ensure sufficient crop plantings both in volume and type are considered. If a tree cover crop is planted, it would advantageous to investigate and plan for a mixed hardwood and softwood “forest” spray field. Tree types would need to be of those which have high rates of evapotranspiration and heavy nutrient usage. This type of cropping would require the use of a fixed or stationary spray arrangement consisting of hard piping, fixed spray heads and access trails. Irrigation could also be extended to existing wooded areas with sufficient tree cover and type. Existing forested areas proposed for irrigation should not include steep slopes and be located outside of all applicable regulatory buffers and setbacks.

The management of any residuals produced by the WWTP process will be addressed in the Wastewater Manual of Operations for the WWTP. This is a requirement of MDE. Unless the residuals are planned to be managed by land application on the site of the project, residual management is not required to be included in the Nutrient Management Plan.

Alternative Crop Cover - Forested Spray Irrigation Considerations

The concept of land treatment of wastewater has a sound scientific and experience foundation which has proven that land can be used for disposal of wastewater in an environmentally acceptable manner and that such land is not irreversibly withdrawn from any present or future societal use.[4]

The irrigated wastewater evaporates and transpires to the atmosphere or recharges the groundwater through percolation. Organic constituents in the wastewater are stabilized by soil bacteria. Organic and ammonia nitrogen are taken up by plants, nitrified by soil bacteria and lost to the atmosphere through denitrification. Phosphorus and other constituents are adsorbed in the soil profile and taken up by plants. Properly designed and operated land treatment systems produce percolate water of high quality and thus protect ground and surface water resources.[5]

The existence of forested areas available for spray irrigation and the potential to create additional forested areas through conversion of agricultural fields make the implementation of a wastewater land discharge a possibility. Benefits of a forested spray irrigation system are many. Forested areas provide a nearly year-round opportunity to spray irrigate wastewater in an ecosystem that utilizes water and nutrients at an increased rate compared to normal agricultural crops. As an example, Loblolly Pine with understory vegetation, can achieve a nitrogen uptake of 286 lbs./acre/year, which is approximately double the nitrogen uptake for corn and quadruple the nitrogen uptake for small grains, crops that initially proposed for this property.

Other potential advantages of forested spray irrigation areas include:

1) Timber can be harvested or left standing
2) No need for residual management
3) Can utilize land with greater slopes
4) No need to consider crop rotations
5) Reduced labor and nutrient and pesticide inputs and reduced management costs

Spray irrigation of afforested areas and existing forest is a viable alternative to an irrigated harvested annual cover discussed above in Crop Selection and Nutrient Recommendations. Forestation will not be considered for the start-up phase irrigation area but may be considered in future phases.

[4] SOIL DEVELOPMENT AND PROPERTIES/Water Storage and Movement; M. Weiler, University of British Columbia, Vancouver, BC, Canada J J McDonnell, Oregon State University, Corvallis, OR, USA; 2004

[5] GUIDELINES FOR SLOWRATE LAND TREATMENT OF WASTEWATER; *State of Georgia Department of Natural Resources Environmental Protection Division Watershed Protection Branch*; June 2006

TABLE 4-12
ESTIMATED NET ANNUAL NITROGEN UPTAKE IN THE OVERSTORY AND UNDERSTORY VEGETATION OF FULLY STOCKED AND VIGOROUSLY GROWING FOREST ECOSYSTEMS IN SELECTED REGIONS OF THE UNITED STATES (22)

	Tree age, yr	Average annual nitrogen uptake, kg/ha*yr
Eastern Forests		
Mixed hardwoods	40-60	220
Red pine	25	110
Old field with white spruce planation	15	280
Pioneer succession	5-15	280
Southern Forests		
Mixed hardwoods	40-60	340
Southern pine with no understory	20	220[a]
Southern pine with understory	20	320
Lake States Forests		
Mixed hardwoods	50	110
Hybrid poplar[b]	5	155
Western Forests		
Hybrid poplar[b]	4-5	300-400
Douglas-fir plantation	15-25	150-250

a. Principal southern pine included in these estimates is loblolly pine.

b. Short-term rotation with harvesting at 4-5 yr; represents first growth cycle from planted seedlings.

Records Management

Record and documentation management is the key to any successful nutrient management program. They provide data important to allow for tracking soil nutrient trends, complying with and responding to regulatory requirements and inquiries, tracking crops yields, weather information and other general environmental conditions.

An Annual Implementation Report (AIR) will be submitted to the Maryland Department of Agriculture by March 1st of each year.

Trappe East Holdings Business Trust or the farmer responsible for agricultural operations on the subject property will maintain records in accordance with COMAR 15.20.06.05. The following information will be maintained and kept on file for three years:

1. All records, receipts and information relating to the purchase, application rates and methods of use for fertilizers.
2. Source, analysis and description of the growing substrate.

To the extent that the MDE groundwater discharge permit mandates certain records and documentation requirements, such records and documentation will be kept in accordance with the MDE groundwater discharge permit.

Other records and documentation requirements may be outlined in the Wastewater Manual of Operations.

Environmental Monitoring and Testing

The MDE groundwater discharge permit may establish specific monitoring and testing requirements. These requirements may be in addition to the traditional NMP requirements, which are set forth below.

Traditional NMP requirements for monitoring consist of observations of sediment control and erosion, ponding of water, and water runoff to adjacent properties or to surface water bodies.

If applicable, this NMP will be revised to be consistent with any additional or different monitoring and testing requirements associated with the MDE groundwater discharge permit.

If the requirements of this NMP and a discharge permit address a similar matter, but are not consistent, the more frequent, stringent, or detailed monitoring and testing standard will apply.