July 10, 2014

Lakemist Homes
295 Lakemist Drive
Mooresville, North Carolina 28117

Attention: Mr. Jim Feldman

Reference: **Technical Assistance with Fast Track Septic Permitting**
Lot 146 CL&T Section 9
100 Culpeze Road
Iredell County, North Carolina
S&ME, Inc. Project No. 4358-14-081

Dear Mr. Feldman:

S&ME, Inc (S&ME) has provided technical assistance to obtain a possible four bedroom septic Improvement Permit from the Iredell County Health Department (ICHD) for the referenced lot. The technical assistance was performed in general accordance with S&ME Proposal No. 43-1400564 dated June 23, 2014.

Attached is the Application for the Septic Improvement Permit, the Zoning Permit, and the ICHD Fast Track requirements presented to the ICHD on your behalf. There is an existing house, a 3 bedroom bed septic system installed in 1979, and an existing well on the lot. We understand you want to demolish the existing house and build a new 4 bedroom home. You are now requesting a 4 bedroom Improvement Permit with a new house pad. Mr. Paul Penninger with S&ME visited the lot with you to review the lot, flag the proposed system and existing system, and place four hand auger borings on the lot.

The property corners and lines were flagged by your surveyor. The proposed septic lines and the existing septic tank and bed drainfield were flagged in the field by S&ME and located by your surveyor as shown on the attached site plan. We are proposing a T&J Panel Block system and repair area with a 0.325 gallons per day per square foot (gpd/sqft) Long Term Acceptance Rate (LTAR). The trench bottom will be installed in a clay loam to loam Group III soil with a LTAR range of 0.3 to 0.6 gpd/sqft as stated in Rule .1955. Part of the existing bed system could also be reserved as part of the repair area.

Once the septic area is permitted, it should be fenced off for protection during home construction. Access to the lot should only be by the proposed drive. There shall not be cuts of 2 feet or greater within 15 feet of any part of the permitted septic system. Also

the drainfield must be at least 15 feet from drainage ditch located by the surveyor along the eastern property line.

S&ME appreciates the opportunity to provide these services to you. The attached information is not an Improvement Permit or Authorization to Construct, and is only to assist you and the ICHD with the Fast Track site evaluation. The attached plan is not intended to be a Professional Engineer plan. The ICHD must approve each lot and only the ICHD can issue these permits. The ICHD should verify all soils and system specifications, required setbacks, and whether a professional engineer plan is required before permitting and/or septic system installation. The ICHD may show any changes or modifications they deem necessary to the proposed system on the attached site plan or the Improvement Permit. Soil evaluations and system layouts are done based on interpretations of the rules governing wastewater treatment and disposal systems and are not guarantees for site approval or future septic system performance.

If you have any questions or require additional information please contact us at your convenience.

Sincerely,

S&ME, Inc.

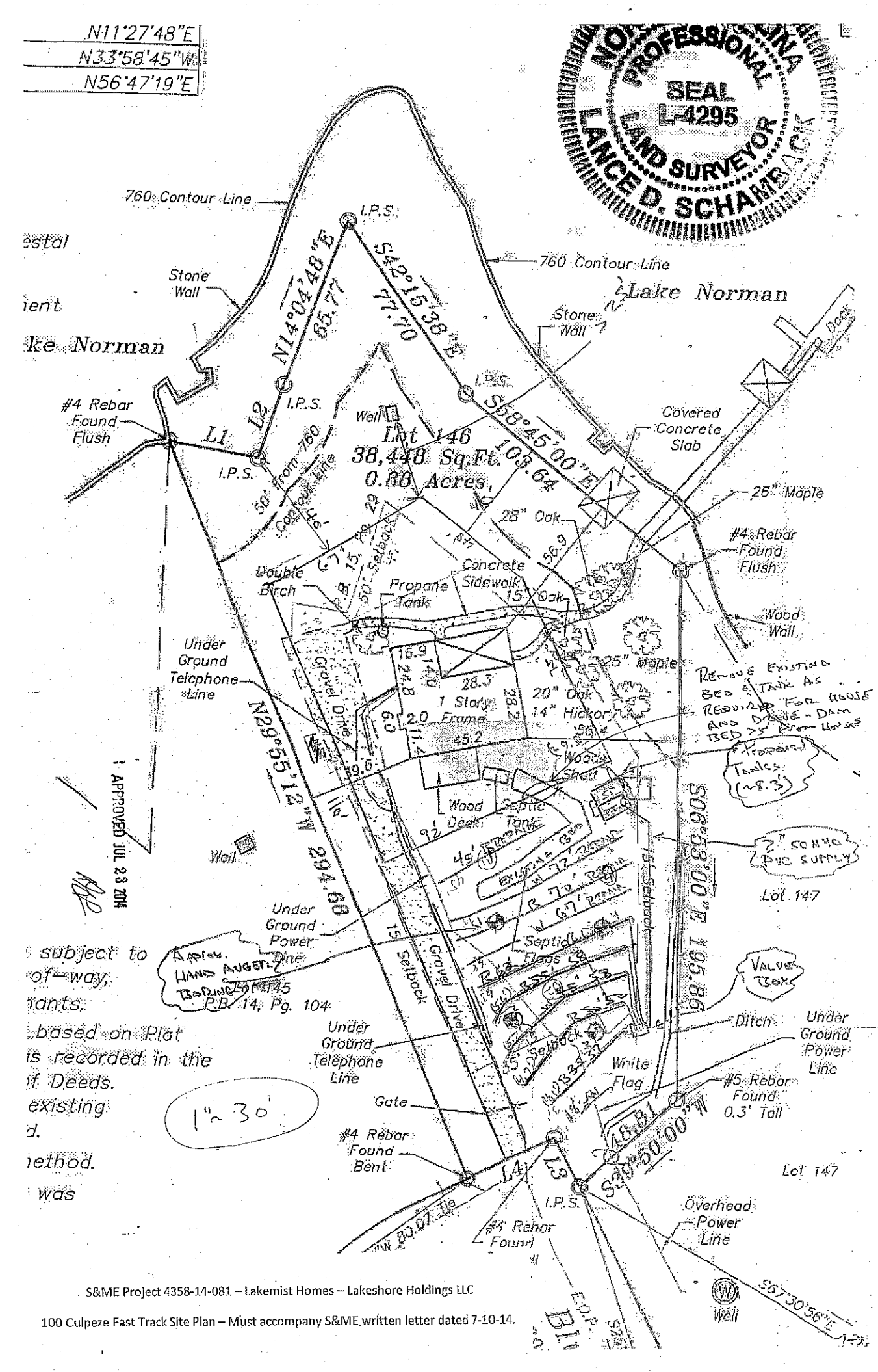
Paul G. Penninger, L.S.S.
Soil Scientist

Rob Willcox, L.S.S.
Soil Scientist - Senior Project Manager

Attachments:

1. ICHD Improvement Permit Application and Zoning Permit
2. Site Plan and System Specifications
3. Soil Profile Descriptions and 1979 ICHD Improvement Permit

Copy: ICHD



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S&ME Project 4358-14-081 – Lakemist Homes – Lakeshore Holdings LLC

100 Culpeze Fast Track Site Plan – Must accompany S&ME.written letter dated 7-10-14.

I Lance D. Schamback, certify that this plat was drawn under my supervision from an actual survey made under my supervision (deed description and/or Map Book: 15, Page 29). That the boundaries not surveyed are clearly indicated as drawn from information as shown survey; that the ratio of precision as calculated is 1: 10,000+ that this plat was prepared in accordance with G.S. 89-C as amended. Witness my original signature, registration number and seal this 30 day of June, A.D. 2014.

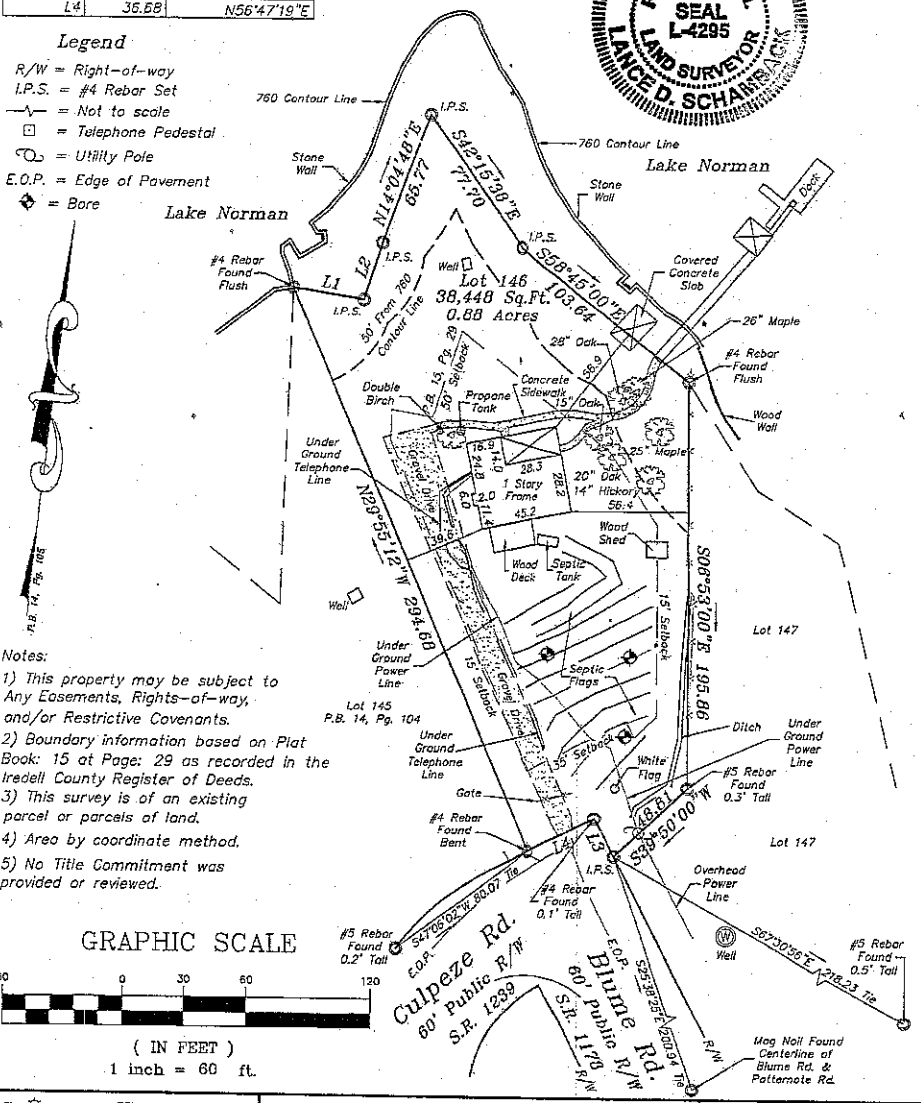
Lance D. Schamback, PLS
L-4295

NORTH CAROLINA PROFESSIONAL SEAL L-4295 LAND SURVEYOR LANCE D. SCHAMBACK

LINE TABLE		
LINE	LENGTH	BEARING
L1	34.48	S87°45'12"E
L2	28.79	N11°27'48"E
L3	20.74	N33°58'45"W
L4	36.68	N56°47'19"E

Legend

R/W = Right-of-way
I.P.S. = #4 Rebar Set
—∿— = Not to scale
⊡ = Telephone Pedestal
= Utility Pole
E.O.P. = Edge of Pavement
◆ = Bore



Notes:

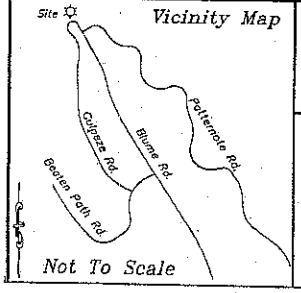
1) This property may be subject to Any Easements, Rights-of-way, and/or Restrictive Covenants.
2) Boundary information based on Plat Book: 15 at Page: 29 as recorded in the Iredell County Register of Deeds.
3) This survey is of an existing parcel or parcels of land.
4) Area by coordinate method.
5) No Title Commitment was provided or reviewed.

GRAPHIC SCALE

80 0 30 60 120

(IN FEET)
1 inch = 60 ft.

Vicinity Map



Not To Scale

Boundary Survey
FOR
Jim Feldman

PROPERTY DESCRIPTION
Lot 146,
Crescent Land & Timber
Section 9
Plat Book 15, Page 29
Davidson Township, Iredell County, NC

SCALE: 1" = 60'
FIELD BOOK:
FILE: 2014-107
TAX PIN #: 4637039609

Schamback Surveying, P.A.
Post Office Box 4143
Mooresville, NC 28117
(704) 622-9915
C-3218

100 Culpeze Road Fast Track System Specifications
S&ME Project 4358-14-081 Lakemist Homes (July 10, 2014 - Revised July 24, 2014 per ICHD request)

Number of Bedrooms	4
Basement or Crawl	**Crawl/Slab Garage**
Design Flow (gpd)	480
LTAR (gpd/ft2)	designed at 0.3
Primary System Type	**LP PPBPS** (T&J Panel)
No. Lines	5 (See Table)
Total Linear Feet	267
Trench Width	2' min.
Trench Spacing	8' min.
Pump Required	Yes
Distribution Device	Gate Valve Box w/ LPP Distribution
Maintenance Agreement Required	Yes
Length and Diameter of Supply Pipe	approx. 110' of 2 " SCH 40 PVC
Size of laterals	1 1/4" SCH 40 PVC
Flow Rate through the system	30
Elevation head	Approx. 14'
Pressure head	3.0'
Friction head	approx. 3'
20% Contingency	4'
Total Head	24'
Pump Requirements	30 gpm @ 24' of head To be verified by installer and ICHD.
Maximum Dosing Volume	200 gallons max
Volume of water pumped per dose	Calculated to specific tank by measure or dealer engineering specifications (1 cubic ft. of water equals 7.48 gal.)
Pump Run per dose	approx. 6.7 min.
Check Valve	yes
Siphon Break hole	no
Repair System	**LP PPBPS**
Total Linear Feet	271 shown (246 required)
Repair LTAR	designed at 0.3

***Before placement of cap block, one panel on each line near the center of the field should be observed filling to make certain that it does not overflow top chamber into air chambers of panel. If overflow occurs, reduce floats by 25 gallons and reset until no overflow is observed.**

Table 1: 100 Culpeze Road Fast Track Summary of Primary Line Specifications

Lakemist Homes - July 10, 2014 - Revised July 24, 2014 per ICHD request

Line No.	Use	Line Color	System Type	Line Length (Ft.)	Rod Reading (Ft.)	Panels	Holes	Hole Spacing	Hole Size (In.)
1	System	blue	LPPPBPS	37	4.1	8	8	1 per panel	5/32"
2	System	red	LPPPBPS	52	4.7	12	12	1 per panel	5/32"
3	System	white	LPPPBPS	58	5.2	13	13	1 per panel	5/32"
4	System	blue	LPPPBPS	58	5.6	13	13	1 per panel	5/32"
5	System	red	LPPPBPS	62	6.1	14	14	1 per panel	5/32"
						Total: 60	Total:60 (1 in each panel turned up)		
				Total System: 267'					

Total Repair: 272' shown

Tank		1500 gal (2 compartment)	
Pump Tank		1000 gal.	approx. 8.3
House	(FR)		9.3

Note: **Installer and ICHD shall verify all line locations, tank locations, and elevations prior to installation.**
System is to be installed according to any other ICHD requirements or policies.
These specifications are to satisfy the ICHD Fast Track LSS checklist and are not intended to represent an Engineered System Design.
Use trench depth and other specifics on ICHD IP.

DENR/DEH

ON-SITE WASTEWATER SECTION

Sheet 1 of 1
PROPERTY ID #:
COUNTY:

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Lakeshore Holdings LLC — APPLICATION DATE 7-10-14
ADDRESS: 295 Lakemist Dr — DATE EVALUATED:
PROPOSED FACILITY: House — PROPOSED DESIGN FLOW (.1949): 450 — PROPERTY SIZE: 0.88 ac
LOCATION OF SITE: 100 Cypress — PROPERTY RECORDED:
WATER SUPPLY: • Private • Public • Well • Spring • Other
EVALUATION METHOD: • Auger Boring • Pit • Cut — TYPE OF WASTEWATER: • Sewage • Industrial Process • Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	C 5-15%	0-9	vwsbk SCL + gravel	fr ss/sp					PS .35-.4
		9-22	msbk C	fr ss/sp	slightly com, in upper horizon				
		22-38	wsbk cl	fr ss/sp	f SAP (mica)		Slight		
		38-48	wsbk-l	fr ss/sp	C SAP	mica			
					—	48"	(ND)	—	
2	C 5-15%	0-9	wsbk scl + gravel	fr ss/sp					PS .35-.4
		9-14	msbk C	fr ss/sp					
		14-48	wsbk cl-l	fr ss/sp	C SAP (S mica)				
					—	48"	(ND)	—	
3	C 5-10%	0-8	wsbk scl	fr ss/sp	Dp - Soil				PS .35-.4
		8-19	msbk C	fr ss/sp	f SAP				
		19-35	wsbk cl	fr ss/sp	f SAP				
		35-48	wsbk l	fr ss/sp	C SAP				
					—	48"	(ND)	—	
4	C 5-10%	0-18	wsbk scl	fr ss/sp	Dp - SAP (poorly drained soil, stump hole?)				PS .35-.6
		18-26	msbk C	fr ss/sp					
		26-48	wsbk cl	fr ss/sp	f SAP				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	Ps	Ps
System Type(s)	T&J	T&J
Site LTAR	.35-.4	.35-.4

OTHER FACTORS (.1946): 1
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: Pam Pedersen
OTHER(S) PRESENT: must be approved by ICWD

COMMENTS: Use 36" trench for Bed

See descriptions by Adrian Pruett
ACP 7-23-14

DENR/DEH

ON-SITE WASTEWATER SECTION

Sheet 1 of 1
PROPERTY ID #: 4637-03-96a
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Lake Shores Holdings LLC APPLICATION DATE 7-11-14
ADDRESS: 295 Lake Point Dr Mooresville NC 28117 DATE EVALUATED: 7-22-14
PROPOSED FACILITY: 4BRM PROPOSED DESIGN FLOW (.1949): 480 gpd PROPERTY SIZE:
LOCATION OF SITE: 100 Culpeze Rd PROPERTY RECORDED: Yes
WATER SUPPLY: ☑ Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☑ Auger Boring ☐ Pit ☐ Cut TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
B 1	LSS 4%	0-12	Fill			48"	-	—	PS .3
		12-24	R CMFSDL	Fr SS SPSBP					
		24-48	R CLMFSDL	Fr SS SPSBP	com sap				
B 2	LSS 5%	0-10	Fill			48"	-	-	PS .3
		10-20	R CMFSDL	Fr SS SPSBP					
		20-48	R CLMFSDL	Fr SS SPSBP	com sap				
B 3	LSS 5%	0-12	Fill			48"	-	-	PS .3
		12-24	R CLMFSDL	Fr SS SPSBP					
		24-44	R CMFSDL	Fr SS SPSBP	few sap				
		44-48	R CLMFSDL	Fr SS SPSBP	com sap				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	LP PPBPS	LP PPBPS
Site LTAR	0.3	0.3

OTHER FACTORS (.1946): None
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: AZP
OTHER(S) PRESENT: Jim Feldman

COMMENTS: