SOIL INTERPRETATIONS

WETNESS CLASS: based on depth to ≤2 chroma colors in profile

1	> 150 cm	(no 2 chroma colors—WELL DRAINED soil)
2	101-150	
3	51-100	
4	26-50	
5	≤25	(v. wet, water table nearly at surface)

HYDRAULIC CONDUCTIVITY: based on *most limiting layer* in entire profile

LOW: 1. fragipan in profile; OR
2. at least one horizon with sc, c, and sic texture with massive, weak or platy structure AND some ≤2 chroma colors in horizon; OR
3. ≤2 chroma colors occurring directly above a Cr or R horizon

HIGH: s and ls texture throughout profile

MODERATE: all other profiles (this is the "DEFAULT" answer)

AVAILABLE WATER: computed for top 150 cm of profile, or depth to root-limiting layer (fragipan, Cr or R)

- based on textural classes
- should be reduced for gravelly textural classes (35% gravel in horizon=35% less AW)

		cm H_2O/cm soil
Textural classes:	sil, si, sicl:	0.2
	All Other Textures	0.15
	s, ls	0.05

Procedure: 1) add up depths of horizons that have textures in the THREE groups above
2) for each group, multiply by the AW per cm soil
3) sum up for each group, and rate the profile according to:

Very Low:	≤ 7.5 cm
Low:	>7.5 - 15 cm
Moderate:	>15 - 22.5 cm
High:	> 22.5

NOTE: for 150 cm profile with all textures NOT listed (not sa or si): 150 x 0.15 = 22.5: MODERATE

INFILTRATION RATE: refers to *SURFACE HORIZON*: based on TEXTURE AND STRUCTURE

- ➔ s, ls, and sl with > 2% OM: **HIGH**
- ➔ sc, sic or c with wk or massivestructure: **LOW**
- ➔ ALL OTHERS: **MODERATE ("default")**

Surface Runoff Classes

Topographics	Rapid Infiltration	Moderate Infiltration	Slow Infiltration
Depression	Ponded	Ponded	Ponded
0-1%	Very Slow	Very Slow	Slow
>1-2%	Very Slow	Slow	Medium
>2-6%	Slow	Medium	Rapid
>6-12%	Medium	Rapid	Very Rapid
>12%	Rapid	Very rapid	Very Rapid

Soil Erosion Potential Classes

	Surface Horizon Texture			
Surface Runoff	S, LS	SCL, SC	SL, CL, C, SiC	L, Si, SiL, SiCL
Ponded	Very Low	Very Low	Very Low	Very Low
Very slow	Very Low	Very Low	Low	Medium
Slow	Very Low	Low	Medium	Medium
Medium	Very Low	Low	Medium	High
Rapid	Low	Medium	High	Very High
Very Rapid	Medium	High	Very High	Very High

Soil Use Interpretations Tables

Dwellings with Basement: Adapted from NSSH Table 620-3 and modified to fit guidelines in the Southeast Region Handbook for Collegiate Soils Contest.

	Degree of Limitation		
Factors Affecting Use	Slight	Moderate	Severe
1. Flooding or ponding frequency	None	Not a choice	Rare to Frequent
2. Slope (pct)	<6	6 - 20	>20
3. Depth to seasonally high water table (cm)	>100	50 - 100	<50
4. Depth to soft rock (Cr) (cm)	>100	50 - 100	<50
5. Depth to hard rock (R) (cm)	>150	100 - 150	<100

Septic Tank Absorption Fields: Adapted from NSSH Table 620-17 and modified to fit guidelines in the Southeast Region Handbook for Collegiate Soils Contest.

	Degree of Limitation		
Factors Affecting Use	Slight	Moderate	Severe
1. Flooding or ponding frequency	None	Not a choice	Rare to Frequent
2. Slope (pct)	<6	6 - 20	>20
3. Depth to seasonally high water table (cm)	>150	100 - 150	<100
4. Limiting hydraulic conductivity	Moderate	Not a choice	Low (percs slowly) or High (poor filter)
5. Depth to rock (R or Cr) (cm)	>150	100 - 150	<100

Local Roads and Streets: Adapted from NSSH Table 620-5 and modified to fit guidelines in the Southeast Region Handbook for Collegiate Soils Contest.

	Degree of Limitation		
Factors Affecting Use	Slight	Moderate	Severe
1. Flooding or ponding frequency	None	Not a choice	Rare to Frequent
2. Slope (pct)	<6	6 - 20	>20
3. Depth to seasonally high water table (cm)	>50	25 - 50	<25
4. Depth to soft rock (Cr) (cm)	>100	50 - 100	<50
5. Depth to hard rock (R) (cm)	>150	100 - 150	<100

SOIL TAXONOMY:

EPIPEDONS:

mollic: value and chroma ≤ 3, >25 cm thick, %OC >0.6%, %BS > 50%
umbric: as above, but %BS < 50%
ochric: not mollic or umbric; some soil structure
none: finely stratified alluvium or horizon containing rock structure

SUBSURFACE DIAGNOSTIC HORIZONS (may be MORE THAN ONE):

albic: E horizon with Chroma ≤2 and value ≥3; or chroma≤3 and value ≥6
argillic: clay increase relative to A/E above: 3% abs. increase if A/E is < 15%
20% rel. increase if A/E has 15-40% clay
8% abs. increase if A/E > 40% clay
--must have clay films/cutans/ bridging as *evidence of translocation*
-- high activity clays (ECEC>12, CEC(pH 7)> 16)—see kandic
cambic: > 15 cm thick, AND finer than v.f. s with some soil structure, OR shows some evidence of alteration within 50 cm of surface: chroma ≤2 ("Bg") OR higher value, chroma, or redder hue or clay content that overlying horizon ("Bw")
fragipan: > 15 cm thick, firm or firmer moist consistence, no cracks/roots, brittle failure
kandic: similar to argillic, but will have low activity clays (ECEC<12, CEC(pH 7) < 16)
spodic: humus (and Fe) accumulation, no clay increase; often below albic
lithic contact: rock (R horizon) within described depth
paralith contact: weakly or moderately consolidated bedrock materials (Cr horizon)
lithologic discontinuity: presence of two parent materials (indicated by change in PSD)
none: none of the above

ORDERS:

ENTISOLS: ochric over C
INCEPTISOLS: ochric/umbric over Bw; or umbric over C
ALFISOLS: ochric/umbric over high-base (>35% BS) argillic or kandic
ULTISOLS: ochric/umbric over acid (<35% BS) argillic or kandic
MOLLISOLS: mollic over anything
SPODOSOLS: ochric over spodic, commonly with albic