

Legend for comment response

Agree and Agree and added to draft - we agree with the comment and it has been addressed in the draft rules

Reject - we do not agree with the comment and provide a reason for our rejection of the comment

Agree with modifications - we agree with the comment, but based on other feedback, have changed the proposed rule modification

Agree but not in current draft - we agree with the comment, but did not make those changes to 18E prior to distribution in May 2016 and those changes will be made and show up in future rule draft

Still under discussion - we have not made a final decision about that particular subject

Address in guidance - guidance will be drafted for this issue that will be distributed at or before the new rules are adopted

	Rule Number	Page Number	Line Number	Comment	Suggested changes based on comment (Alternate language, suggested definition, etc.)	Suggest Terminology (ADD, CHANGE, or REPLACE)	Rule Review Comments from	Comment Response
1								
2	General							
3	All	All		NCDEH rules need to be condensed and specific. +160 pages of rules to install a septic system?	Condense NCDEH rules to basic necessary counterparts as mandated by NCGS legislative law. Much in current draft can be referenced to guidelines, BMP, or appendix.		CSSC	Agree. Draft document is double spaced for easier review.
4	All	All		Many definition terms do not appear to be consistently used throughout the body of the rules, or other terms substituted that are different from the definitions. Need to thoroughly review administrative rules for consistency, and for compliance with mandated terms or definitions from legislative law.			CSSC	Agree
5	Index	Index		Rules need to be logically organized.	Organize rules by: Authority, Permitting, Soil/Site Requirements, Location, Treatment Level, System Type/Design Specifications, etc.		CSSC	Agree
6	All rules			If the revised rules are more restrictive than existing rules, will there be a grandfather clause for existing lot?			CSSC/PP	The same exemptions in the current rules exist in the draft.
7	"§ 130A-336.1	41	e 1	Engineers don't have to use NC approved systems but there has to be a proven standard that they would have to go by. Just because a system isn't approved in NC doesn't mean it will not work but with that stated we still need some sort of standard.	The professional engineer may, at the engineer's discretion, employ pretreatment technologies not yet approved in this State, however the system design has to be ANSI or NSF approved or equivalent, and meet NSF standards 40, 245 or 350 depending on what criteria is needed.	Add what is in red	Anson/Central NCEHSA	Reject. We acknowledge this concern. However, it is a provision in Session Law 2015 286.
8								
9	Rule .1934							
10	1934	1	1	dispersal and disposal	add "dispersal"	add	B Rubin	Agree and added to draft
11	1934	1	2	"from" is inappropriate, "through ground absorption" is	change from to through	change	B Rubin	Agree and added to draft
12	1934	1	2	no mention of graywater	add wastewater and graywater	addition	B Rubin	Agree in theory. However, these systems are not in our jurisdiction.

13	.1934 (a)	3	2	NCDEH rules cover all subsurface applied wastewaters, not just domestic strength.	Rules and site standards need to be structured based upon type of wastewater: domestic / industrial; and Treatment Level: Primary effluent, TS-1, TS-2, reuse-reclaim, etc.		CSSC	Agree with modifications and added to draft. Included definitions for wastewater strength.
14	0.1934a	3	2	consistency of terminology	replace disposal with dispersal	change	ENCESHA	Agree and added to draft
15	.1934 (b)	3 thru 9		Put standards into a separate appendix to rules.	Do not put reference standards in the rules. Refer to references and put all into an appendix. References are subject to future change.		CSSC	Agree with modifications. Reference standards as appropriate in specific rules and incorporate future updated versions.
16	1934 (b)	3	24	Don't list contact info for Table 1-A. These change over time and can become useless.	eliminate the third column and make column 2 wider, so not as many pages have to be taken up by Table 1-A		Orange County EHS	Agree with modifications
17	1934 (b)	3	18	Since all of these are adopted by reference, don't list OSWP address as it will change over time	Delete.		Orange County EHS	Agree with modifications
18	.1934(b)	3	7	Excellent, now please go through the rules and delete the redundant adoption by reference language.			S Steinbeck	Agree with modifications. Reference standards as appropriate in specific rules and incorporate future updated versions.
19	1934	6	Table	ASTM F405 has been withdrawn and replaced with ASTM F667. Please refer to the ASTM web site for additional information: http://www.astm.org/Standards/F405.htm	Global - Replace all references to ASTM F405 with ASTM F667. This applies on pages 6 and 114.	Replace	OWTS Stakeholder Group	Agree but not in current draft. Will be added.
20	0.1934			NOT VALID SPEC. ASTM F 405 has been withdrawn, April 2015 and replaced by ASTM F 667/F 667M for 3 through 24 in. Corrugated PE Pipe & Fittings.			S Steinbeck	Agree but not in current draft. Will be added.
21	0.1934			Standard recently UPDATED, correct reference is now: ASTM F667/F667M-15, "Standard Specifications for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings" BTW, this brings up the real need to review each and every referenced standard in this Section to assure currency and validity. Many reference are over a decade old.			S Steinbeck	Agree but not in current draft. Will be added.
22								
23	Rule .1935							
24				May need a word search to delete "sewage" and insert "wastewater." Mixed terms are found throughout this Draft.			S Steinbeck	Agree
25				Definitions need very careful review and drafting. Also, the use of consistent terms throughout this Section is encouraged. Multiple terms are used and should be reviewed, e.g. LHD v. Authorized agent, Repair v. replacement, & etc.			S Steinbeck	Agree
26	.1935			Include all legislative definitions from NCGS into NCDEH administrative rules.			CSSC	Reject. Now defined in G.S. Cannot repeat definition in rules.
27	.1935			Add definitions for "Licensed Engineer", "Licensed Soil Scientist", "Licensed Geologist", "Plat", "Site Plan"	Add definitions for "Licensed Engineer", "Licensed Soil Scientist", "Licensed Geologist", "Plat", "Site Plan"		CSSC	Reject. Now defined in G.S. Cannot repeat definition in rules.
28	.1935 (1)	10	7	"Alternative System" definition needs to be redefined or deleted.	Delete "Alternative System" definition.		CSSC	Agree and removed from draft

29	.1935 (3)	10	10	Can no longer define bedroom beyond NC Building Code	Keep current definition		Orange County EHS	Agree with modifications. Will default to Building code. Applicant's signature and building inspector documentation will confirm number of bedrooms requested.
30	.1935(3)	10		Does not meet H44 Section 18	As defined by NC Residential Building Code	Change	Orange County EHS	Agree with modifications. Will default to Building code. Applicant's signature and building inspector documentation will confirm number of bedrooms requested.
31	.1935 (3)	10	16	"Bedroom" definition is confusing.	Use design unit flow rate or dwelling unit maximum occupancy. Otherwise you become the bedroom police.		CSSC	Agree with modifications. Will default to Building code. Applicant's signature and building inspector documentation will confirm number of bedrooms requested.
32	0.1935(3)	10	16	Are we now expected to make a bedroom determination?	Need to add closet with number of square feet (size) of room.		ENCEHSA	Agree with modifications. Will default to Building code. Applicant's signature and building inspector documentation will confirm number of bedrooms requested.
33	0.1935(3)	10	16	bedroom definition is not very clear.	what does building code say?	change	ENCEHSA	Agree with modifications. Will default to Building code. Applicant's signature and building inspector documentation will confirm number of bedrooms requested.
34	0.1935	10	22	What about access to a bathroom?	Add, "Access to a bathroom"		WNCEHSA	Agree with modifications. Will default to Building code. Applicant's signature and building inspector documentation will confirm number of bedrooms requested.
35	.1935 (4)	10	23	"Cation Exchange Capacity" is poor method for mineralogy. Sampling and lab test method / locations have great variation.	Delete "Cation Exchange Capacity" for mineralogy. Use consistency, structure, and high or very high LEP, COLE, or Expansive Index test. If mineralogy is questionable, allow Ksat testing of +24 hour steady state rate, as consistent Ksat is site concern.		CSSC	Reject. We have seen no data to support using 24 hour KSAT for mineralogy. KSAT is used to confirm LTAR not assign LTAR. LTAR range for a group IV soil is 0.4-0.1 gpd/ft ² , so the ability to use a low LTAR is already being used by LHD's. We have no hardship with leaving Atterberg Limits as an option along with Apparent CEC. Currently the consultant has the option of EOP and .1948(d) in which they could use the COLE, LE, and Bulk Density (even X-ray diffraction if they choose).
36	.1935(4)	10		Should use Ammonium Acetate method like Soil Survey method. Sodium Acetate gives false numbers for kandic soils. Use EPA 9080.	Substitute EPA 9081 for EPA 9080	Change	Orange County EHS	Agree and added to draft
37	.1935 (10)	11	18	Should be "jurisdictional wetland", not "designated wetland".	"jurisdictional wetland" is a land or water area specifically designated and regulated by EPA, NRCS, NCDEQ, or NCDRCM.		CSSC	Agree and added to draft
38	1935	12	NA	Define graywater	add a definition for graywater, "graywater is the untreated wastewater generated from bath, shower, hand wash and laundry; graywater does not include liquid generated in kitchen sinks or dishwashers"	addition	B Rubin	Reject. Not in our jurisdiction.

39	.1935 (14)	12	2	"Estimated Ksat" Do not put reference citation into definitions.	Remove reference standards from definitions and refer to an appendix.		CSSC	Agree with modifications
40	0.1935	12	2	Estimated saturated hydraulic conductivity	Eliminate "Estimated"		WNCEHSA	Agree with modifications
41	.1935 (16)	12	25	"Floodway" definition makes no sense.	Floodway is a land area subject to flooding once every <5 - 10 years, with flood durations of <3 days.		CSSC	Agree and removed from draft
42	.1935 (16)	12		Definition of "Floodway"- why is this needed?	eliminate definition	remove definition	Rob Snow, Alamance	Agree and removed from draft
43	0.1935(16)	12	25	this definition of floodway couldn't be any more confusing.	remove line 17, edit line 28 to original gpd, and remove line 30	remove	ENCEHSA	Agree and removed from draft
44	.1935 (18)	12		Term "dispersal system" is not congruent with other terminology in the rules.	change "dispersal" to "disposal	change	Rob Snow, Alamance	Agree and added to draft
45	1935	12	18	Not a "disposal" system, but a "dispersal" system.	If you're going to change terminology, stay consistent in use of said terminology. See also 1948(a), 1950(a), 1952(f), 1972(u), 1987 (e)(6)(B)	Change to "dispersal".	Orange County EHS	Agree and added to draft
46	1935	12	25	Definition of "floodway". Why? I see no other reference using the word elsewhere in the rules.	Delete the definition.		Orange County EHS	Agree and removed from draft
47	.1935 (19)	13	4	Ground water lowering definition should differentiate between groundwater lowering devices and interceptor drainage devices.	A groundwater lowering device is lower than seasonal high wetness indicators, or documented seasonal high water levels through testing and/or modeling.		CSSC	Agree with modifications
48	0.1935	13	10	Horizon subdivision	Eliminate "Horizon subdivision"		WNCEHSA	Agree and removed from draft
49	.1935 (22)	13	12	Interceptor drain should differentiate between interceptor drain and groundwater lowering device.	Interceptor drain is at or above seasonal high wetness indicators, or diverts lateral water movement / perched water table.		CSSC	Agree with modifications
50	.1935 (25)	13	18	1--Remove landscape position & topography from definition. 2--LTAR is also determined through Ksat testing and assigning a % of Ksat testing.	1--Landscape position & topography are site considerations, but not directly used for assigning LTAR. 2--Ksat testing of soils and use appropriate % of test results to assign LTAR.		CSSC	Reject. These characteristics are definitely used to adjust LTAR and are thus justifiably included. KSAT is used to confirm LTAR, not to assign it.
51	1935	13	18	The LTAR definition states that this value is used to determine the length of nitrification trenches. While true, the LTAR is also used to determine bed sizing.	Suggest striking the following words "length of nitrification trenches and". The definition will then state that the LTAR is used to determine the size of the nitrification field.	Remove	OWTS Stakeholder Group	Agree and added to draft
52	1935 (25)	13	21	Typo: "per cent" should be "percent"	percent	change	Orange County EHS	Agree and added to draft
53	0.1935	13	22	Saprolite not included	Add, "Saprolite"		WNCEHSA	Agree and added to draft
54	.1935(26)	13	25	Change to "Authorized Agent" and delete the use of this term in this Section. Def. of AA would include State and LHD employees specifically authorized by the Department to enforce the Laws and this Section governing OSWW.			S Steinbeck	Agree with modifications
55	0.1935	13	30	Finally, I could NEVER get a clear and clean determination of this term from CAMA, COE, NOAA, or NOS.			S Steinbeck	Agree and removed from draft
56	.1935 (29)	14	3	"NEMA 4X" needs to be in an appendix of standards, not in definitions.			CSSC	Agree with modifications
57	.1935 (30)	14	13	"NSF-40 Systems" needs to be in an appendix of standards, not in definitions.			CSSC	Agree with modifications
58	.1935 (32 (33) (34)	14	21-28	The terms "nitrification" and "dispersal" are both used in the rules.	Eliminate term "nitrification" and consistently use "dispersal" throughout definitions and rules.		CSSC	Agree and added to draft
59	1935	14	21-22	The definitions do not address beds.	Consider adding a definition for beds (nitrification area exceeding 3 ft in width), given that a new section has been created for this type of nitrification field.	Add	OWTS Stakeholder Group	Agree with modifications

60	.1935 (36)	14	33	Normal high water mark determination by surveying will take legal precedence. "Mean high tide line" has legal meaning, while "normal high water mark / line" is a qualitative term without legal meaning.	Eliminate the statement, "The most restrictive high water mark shall be applied." CAMA uses vegetation type as a good and consistent qualitative field indicator, but an actual survey will take precedence.		CSSC	Agree with modifications
61	.1935(36)	14	33	Is this established or clearly determined? Note comments for Mean High water...			S Steinbeck	Agree with modifications
62	1935	15	4	Operator in Responsible Charge ('ORC') means the individual designated by the person owning or controlling the system"; the "system" is undefined in this context.	Suggest adding a descriptor to "system", such as "wastewater" or something similar.	Add	OWTS Stakeholder Group	Agree with modifications
63	.1935 (38)	15	9	Why use NRCS soil standards, references, and terminology and then change the definition of "organic soils"?	Consistently use the definitions from your cited references, and do not change the terminology, science, and classification of specific terms.		CSSC	Agree and added previous definition to draft
64	0.1935(38)	15	9	why was this definition changed for organic soils?	explain why ? Old definition worked for us.	change to original definition	ENCEHSA	Agree and added previous definition to draft
65	.1935(38)	15	9	Correct term, but we should really write rules to be clearly understood. The old phrase..."Write in Rock Ridge Language" is still valid. One should not require a law or soil science degree to understand rules. (I believe is referencing "histic epipedon")			S Steinbeck	Agree and removed from draft
66	0.1935(39)	15	13	Owner's representative specifically designated by letter or contract to act	is an application considered a contract; define contract. Does the owner and the authorized agent need to sign the document.		ENCEHSA	Agree with modifications
67	1935 (39)	15	13	Don't need to give examples.	Omit "such as a spouse, guardian, or executor".	"Owner or owner's representative" means a person who holds legal title to the property or has power of attorney to act on the owner's behalf. The owner's representative shall also mean an agent specifically designated by letter or contract to act on the owner's behalf to obtain permits."	Orange County EHS	Agree and removed from draft
68	.1935 (40)	15	17	Parallel distribution can be more than just gravity flow.	Eliminate definition, as rules guide the layout of dispersal fields.		CSSC	Agree with modifications but not in current draft. Will be added.
69	1935	15	17	The definition of parallel distribution limits the application to gravity flow.	Suggest deleting reference to "gravity flow", such that pressurized systems are not inadvertently excluded.	Remove	OWTS Stakeholder Group	Agree with modifications but not in current draft. Will be added.
70	0.1935	15	26	Pit?	Add, "Pit"		WNCEHSA	Agree with modifications
71	.1935 (47 (48) (49)	16	3-9	Why all the needless definitions of "Pressure....."	One definition of "Pressure dispersal" should suffice. Change "nitrification" to "dispersal".		CSSC	Agree with modifications
72	0.1935(48)	16	6	pressure distribution definition	change "uniformly to" to "uniformly throughout"		ENCEHSA	Agree with modifications

73	1935	16	14	Create a definition for North Carolina licensed professional engineer.	Create a definition based upon language in the North Carolina Engineering and Land Surveying Act, Chapter 89C - "Licensed Professional Engineer" - A person who has been duly licensed as a professional engineer by the North Carolina Board of Examiners for Engineers and Land Surveyors in accordance with G.S 89C."	Add		OWTS Stakeholder Group	Reject. PE defined in G.S.
74	1935 (54)	16	31	Why not just call it "off-site"? I think the majority of the population think of remote as being far apart or situated at some distance away, out-of-the-way, or secluded. A system can be located off the site without being "remote".	Change from "Remote system" to "Off-site system"	"Off-site system means any part of a ground absorption wastewater system that crosses a property line and requires an easement or encroachment agreement."		Orange County EHS	Agree and added to draft
75	.1935(54)	15		"Remote System" definition is inconsistent with other definitions already in use by Counties and proposed Innovative System Approval for off-site systems.	Definition of "off-site" needs to be consistent with definitions already used industry. Remote system and Off-site system are not the same.	CHANGE		WPEHS	Agree and added to draft
76	.1935 (55)	17	1	Reserve area should not be physically altered or built upon.	Add physical alterations to the soil within a reserve area.			CSSC	Agree
77	1935 (55)	17	1	Call it a "Replacement area" instead of "Reserve area".	The purpose of this area is to "replace" the initial wastewater system.	Replacement area means an area that has been classified SUITABLE consistent with the rules in this Section, which is reserved for the replacement of the initial wastewater system, and shall not be covered with structures or impervious materials.		Orange County EHS	Reject. Went back to repair area.
78	.1935(55)	17	1	Terms Repair and replacement are used throughout Section. Should be consistent. Also if the preferred term is Reserve then the term Repair should be referenced as term previously used to avoid any confusion in future. Check this Section for consistency..terms Repair, Replacement, and Reserve are used.				S Steinbeck	Agree and added to draft

79	.1935 (57)	17	12	Restrictive horizon should be quantitatively defined. These soil features may or may not be restrictive. Past history with Saprolite readily come to mind.	Many plinthite, fragipan, spodic, or droughy clay horizons may be more difficult to dig, but are not restrictive to water movement. System type, LTAR adjustments, or diversion drainage installed to accommodate these types of horizons. Restrictive horizon should be quantitatively defined. Suggest Ksat < 0.01 in/hr which is a lower Ksat limit for drip irrigation dispersal.		CSSC	Reject. Lacking any research or other studies that would suggest that we make changes to the suitability and use of soils having restrictive horizons and specifically to include a quantitative limit or definition. We are unaware of any method of testing a three inch thick layer, either in-situ or with a core, that could provide a reliable KSAT value. Generally, it is a common assumption that a soil layer which is 1/10th of the KSAT of the layer above would be considered an impermeable layer.
80	.1935 (58)	17	24	Strike last sentence of definition, not relevant.	Strike last sentence of definition, not relevant for defining "rock".		CSSC	Reject. This distinction is what separates the realm of LSS from LG from a statutory perspective.
81	0.1935	17	55	Keep Repair, not reserve			WNCEHSA	Agree and added to draft
82	.1935 (60)	18	4	"Saturated soils" definition needs a time duration component added, as any site can be temporarily saturated after significant rainfall events.	Add to definition ".....in a bore hole or monitoring well for durations of >3 to 14 consecutive days pending ambient rainfall amounts." This aligns with Rule .1942. Eliminate last sentence in definition.		CSSC	Reject. Saturated soils definition stands alone. Duration of saturation is addressed in Rule .0504.
83	0.1935	18	14	Comment (TA6)	Yes, change to wastewater		WNCEHSA	Reject. In G.S. 130A-334.
84	Rule .1935	18	28	"Soil" definition should include organic horizons.	Organic soil horizons of Oa and Oe should be included; Oi could be excluded.		CSSC	Reject. We are unaware of any research that would suggest that we make changes to the suitability and use of organic soil.
85	1935	18	28	In this passage, "Soil means the naturally occurring body of porous mineral and organic materials on the land surface. Soil is composed of sand-, silt-, and clay-sized particles that are mixed with varying amounts of larger fragments and some organic material." Sand, silt, and clay particles must be mixed with larger fragments to meet the definition. For example, beach sand would not qualify as soil, because it has no larger fragments or organic material.	Suggest substituting "may be" for "are", as shown below: "Soil means the naturally occurring body of porous mineral and organic materials on the land surface. Soil is composed of sand-, silt-, and clay-sized particles that may be mixed with varying amounts of larger fragments and some organic material."	Replace	OWTS Stakeholder Group	Agree with modifications
86	1935	18	9	add graywater	receive discharge of sewage and graywater	addition	B Rubin	Reject. Not currently under our jurisdiction.
87	.1935 (66)	19	5	A "soil series" cannot be confirmed on the site unless you have the chemical and mineralogical soil lab testing results. A "soil map unit" can be confirmed on the site.	Separate definitions for "soil series" and "soil map unit" should be established. A "soil map unit" can be confirmed on the site.		CSSC	Reject. Definition is stand alone. The term is only used in the context of water table monitoring in Rul .0504 and is thus part of the analysis associated with that activity. Nowhere do we say that soil series must be identified in the course of a soil and site evaluation.
88	.1935 (68)	19-20	24-33,1-18	Do not need to state soil textural classes in rule. Refer to reference.	Do not need to state soil textural classes in rule. Eliminate and refer to reference.		CSSC	Agree and removed from draft

89	.1935 (70)	20	22	Stream should be defined as perennial stream.	Define "stream" as "perennial stream" with water >50% of a normal year and obvious normal high water mark.		CSSC	Agree with modifications
90	.1935 (71)	20	24	Subsurface dispersal can include other means than by nitrification trenches.	Eliminate term "nitrification trenches", consistently use "dispersal" throughout definitions and rules.		CSSC	Agree and added to draft
91	.1935(74)	18		Shouldn't it also factor in slope correction if applicable?	add slope correction for proposed system if this part of calculation	Change	Orange County EHS	Agree with modifications
92	.1935(69)	20	19	Why not just change term to Department...?			S Steinbeck	Agree with modifications but not in current draft. Will be added.
93	.1935 (74)	21	1	"Third-Party" definition needs to be revised. As worded, any person working on or for a project could not be a third-party.independent of the parties or applicants involved, who does not further benefit from the outcome of testing or a project's end success, and		CSSC	Agree but not in current draft. Will be added.
94	0.1935(74)	21	1	Third Party vs Tri-party	Tri-party agreements are very important for final sign off. Third-party is something different causing confusions.		ENCEHSA	Reject. This reference is to third party as defined, not a tri-party agreement.
95	.1935 (75)	21	6	"Unstable slope" should use term "indicators" rather than "evidence", and include tree sweep, severe erosion.	"Unstable slope" should use term "indicators" rather than "evidence", and include tree sweep, severe erosion.		CSSC	Reject. If indicators are listed, determination might be made based solely on those indicators listed instead of other evidence. It is impossible to list every single indicator.
96	1935	21	8	The term "wastewater system" is not defined.	Suggest adding a definition, given the large number of references in the rule.	Add	OWTS Stakeholder Group	Reject. Defined in G.S. 130A-334.
97	0.1935	21	10	add a word	Add, "a" before facility	ADD	WNCEHSA	Agree and added to draft
98	0.1935	19		(b) ...compliance inspection report	Not listed in definitions.	Add	Orange County EHS	Agree and removed from draft
99	.1935 (39)	14		examples of "owners representative" not needed	omit "such as spouse, guardian or executor" from text	remove text	Rob Snow, Alamance	Agree and removed from draft
100								
101	Rule .1937							
102	1937	21	29	When accepted systems were first approved in 2005, the Branch established a requirement that nitrification trench IP/CA application forms have a check box for "Conventional/Accepted" in order to reflect the equal standing that an accepted system has with conventional (see attached Andy Adams letter, December 22, 2006). While LHD permit forms should reflect this requirement, industry field experience with LHD permit forms shows inconsistency in the appearance of the "accepted" option. This leads to manufacturers of accepted systems having difficulties gaining approval of the products through these LHDs. Rule .1937 should mandate a consistent statewide permitting process that includes a check box for accepted systems on LHD forms.	To resolve inconsistencies in LHD permit form content, "accepted systems" should be added to the list of options that LHDs are required to present on permit-related forms.	Add	OWTS Stakeholder Group	Reject. No statutory authority to dictate use of a state-wide form. As Program Reviews for accreditation proceed, we are correcting the inconsistencies. Manufacturers should notify the Branch when they detect a problem.
103	0.1937	21		This may not agree with the GS governing OSWW.			S Steinbeck	Reject. G.S. 130A-5.
104	1937	19		(.1937 (d)(7)) Foundation drain should be designated	add foundation drain to (d)(7)	Add	Orange County EHS	Agree and added to draft
105	.1937 (b)	19		"compliance inspection report" is not listed in the definitions	give definition of a "compliance inspection report"	add	Rob Snow, Alamance	Agree and removed from draft

106	.1937(b)	19		Design daily flow is defined, make sure language stays consistent with this terminology.	Change "wastewater flow" to "design daily flow"	REPLACE	WPEHS	Agree and added to draft
107	0.1937(b)	21	14	Define Compliance Inspection Report	In regards to the POP		ENCEHSA	Agree and removed from draft
108	1937	20		(.1937 (f)(3)) Foundation drain should be designated	add foundation drain to (f)(3)	Add	Orange County/Central	Agree with modifications
109	1937	21	14	Compliance Inspection Report	Please define this report	Clarify	Forsyth County EHS	Agree and removed from draft
110	1937	21	14	"Compliance Inspection Report"	Needs to be defined in definitions		WNCEHSA	Agree and removed from draft
111	1937	22	11	Wastewater characteristics	Explain or define	Clarify	Forsyth County EHS	Agree and added to draft
112	1937	22	13	Location of existing or proposed water supplies	Remove "if known"	Remove	Forsyth County EHS	Agree and added to draft
113	1937	22	13	Location of existing or proposed water supplies	Add comment about proposed irrigation lines	Add	Forsyth County EHS	Agree and added to draft
114	0.1937	22	15	Add a #10	Add, "owners consent form"		WNCEHSA	Reject. Owner as defined in Rule .0102 must provide all required documentation, as needed.
115	0.1937	22	24	Add a #6	Add, "existing water lines, wells and springs"	DELETE	WNCEHSA	Agree and added to draft
116	.1937 c	21	20	Need to clearly reference "Engineered Permit Option" within this section of the rule as separate paragraph. Very confusing as to who permits what and when?	Clearly reference and explain the "Engineered Permit Option" within this section of the rule as separate paragraph and cite rule number.		CSSC	Agree and added to draft
117	.1937 (e) (3)	20		subsection (3) is out of alignment in text	correct alignment of subsection	change	Rob Snow, Alamance	Agree and added to draft
118	.1937 e 5	22	23	All sites are subject to other public agency approvals (building permit, zoning, postal address, etc)	Should be very specific as to other public agency approvals for LHD notifications. Otherwise delete.		CSSC	Reject. Would be impossible to list all other agency approvals. Will provide examples.
119	1937	20		(.1937 (f)(3)) Foundation drain should be designated	add foundation drain to (f)(3)	Add	Orange County EHS	Agree and added to draft
120	.1937 f 2	22	31	Sentence should include plat.	Sentence should include plat.		CSSC	Agree and added to draft
121	.1937 f 4	23	5-8	Should the last paragraph be under .1937 f 2??	Should the last paragraph be under .1937 f 2??		CSSC	Agree and added to draft
122	.1937(f)(4)	23	4	Disagree with keeping floor plan unless required to be 8.5"x11". It will be a nightmare keeping all plans	A footprint of the facility is required. Plans no larger than 8.5x11"	Change	ENCEHSA	Agree and removed requirement for single family houses from draft
123	.1937(f)(4)	23	4	a floor plan of the facility	Currently a floor plan is not received to issue CA's.		ENCEHSA	Agree and added to draft
124	0.1937(f)(4)	23	5	location of "fixed reference point" requirements	Add (5) Fixed Reference Point	add	ENCEHSA	Agree and added to draft
125	0.1937(f)(4)	23	7	Global Position System	Some GPS unit are not that accurate and not all countys have capability to locate this point.	Remove this options or define what type of instrument may be used.	ENCEHSA	Agree and removed from draft
126	0.1937(f)(4)	23	7 to 8	Not all GPS are submeter accurate. Most GPS units not accurate enough for this use	Add "sub-meter accurate coordinates"	Add	ENCEHSA	Agree and removed from draft
127	1937	23	7	Examples of fixed reference points	Remove "stakes"	Remove	Forsyth County EHS	Agree and removed from draft
128	1937	23	7	GPS location is not a fixed reference point	Remove from rules as a fixed reference point		WNCEHSA	Agree and removed from draft
129	0.1937	23	9	Define or use LHD but I recommend the term Authorized Agent be substituted for the Phrase Local Health Depart (LDH) for clarity and consistency when used in conjunction with any approval or permitting process.			S Steinbeck	Agree with modifications
130	.1937 g	23	12-13	Agent's denial report should include ALL site factors and rules for denial.	Agent's denial report should include ALL site factors and rules for denial.		CSSC	Add and added to draft
131	0.1937(g)	23	9	IP, CA and CIR requirements too clumped together	Separate	change	ENCEHSA	Agree and added to draft
132	0.1937(g)(1)	23	19	at least two fixed reference point	one fixed reference point should be acceptable		ENCEHSA	Reject. Two fixed reference points are necessary to accurately document component locations.
133	0.1937(h)(1)	24	11	least two fixed reference points and setbacks from property lines, property corners and other fixed reference points;	least two setbacks which may include property lines, property corners, or any other fixed reference points	change	ENCEHSA	Reject. Two fixed reference points are necessary to accurately document component locations.
134	.1937 g 1	23	18	Delete "diagram", replace with "site plan" or "plat".	Delete "diagram", replace with "site plan" or "plat".		CSSC	Agree and added to draft
135	.1937 g	23	29-31	Please cite and insert NCGS 130A-335(f1) language that when IP permits with a CA are +5 yrs old LHD "shall issue a revised authorization...."	Please cite and insert NCGS 130A-335(f1) language that when IP permits with a CA are +5 yrs old LHD "shall issue a revised authorization...."		CSSC	Agree and added to draft

136	.1937(g)(4)	21		locations of proposed water line. EHS may not know exactly how water line will be ran, generally assumed to be straight line from well to facility. Question is will this be required to be identified in the field by the applicant.			WPEHS	Agree with modifications. Will be asked to locate proposed area to best of their knowledge.
137	.1937 (g) (6)	21		Need LTAR included on IP for each system	the proposed initial system and reserve system types with LTAR foe each system type; and	replace	Rob Snow, Alamance	Agree and added to draft
138	0.1937(g)(6)	23	27	the proposed initial system and reserve system types; and	the proposed initial system and reserve system types including the treatment level when applicable; and	add	ENCEHSA	Agree and added to draft
139	0.1937(g)(7)	23	28	add a number 8	8) include pretreatment		ENCEHSA	Agree and added to draft
140	1937	21		(g)(6) need LTAR included on IP for each system type	(6) ... with LTAR for each system type	Add	Orange County EHS	Agree and added to draft
141	0.1937	24	1	Sentence is too broad.	Change to, "the site is significantly altered and soil conditions degraded that the specified system cannot be reasonably installed or function as permitted.		CSSC	Agree and added to draft
142	0.1937	24	1	add a number 3 (?)	site conditions have changed		ENCEHSA	Agree with modifications
143	.1937 h	24	3-4	Why is a "construction authorization" not transferable? What NCGS states this? Please look at NCGS 130A-335(f1).	Construction Authorizations should be transferable.		CSSC	Agree and added to draft
144	0.1937	24	3	CA not transferable?	eliminate		WNCHEHSA	Agree and added to draft
145	.1937 h 1	24	10	Delete "diagram", replace with "site plan" or "plat".	Delete "diagram", replace with "site plan" or "plat".		CSSC	Agree with modifications
146	0.1937(h)(2)	24	13	indicate water line connections on permits (?)	Okay with this, what if the water meter is not present at the time of issuing the AC		ENCEHSA	Agree with modifications
147	.1937 h	25	5	part-2, sentence is too broad.	Change to, "the site is significantly altered and soil conditions degraded that the specified system cannot be reasonably installed or function as permitted.		CSSC	Agree but not in current draft. Will be added with modifications.
148	.1937 h	25	6	part-3, in context of NCGS 130A-335(f1). How can a CA Permit be revoked due to time expiration?	This needs to be changed to be in conformance with NCGS, or likely deleted as a condition for revokation.		CSSC	Agree with modifications
149	.1937(h)3	21		Design daily flow is defined, make sure language stays consistent with this terminology.	Change "wastewater design flow" to "design daily flow"	REPLACE	WPEHS	Agree and added to draft
150	0.1937(h)(7)	24	27	management entity	instead of including the ME requirements on the OP now it will be on the CA	Explain	ENCEHSA	Reject. Will be on the CA and the OP.
151	.1937 i	25	7-13	NCGS 130A-335(f1) states only a preconstruction conference is required when an IP and CA should expire or +5 yrs old. Nothing about a new application or starting the process over. It further states, "the LHD shall issue a revised authorization....."	Read NCGS 130A-335(f1) carefully or get Legislature / AG's opinion, and edit this portion of the rules accordingly.		CSSC	Agree
152	0.1937(i)	25	8	suspended	remove suspended from the lanaguage for requiring a new application.	change	ENCEHSA	Agree and removed from draft

153	1937	25	14	A comment bubble in the margin asks if the owner can be required to sign the CA.	Establishing such a requirement for accepted systems would be inconsistent with the December 22, 2006 letter by Mr. Andy Adams, R.S., Section Chief, On-Site Water Protection Section clarifying the regulation and permitting of accepted systems. Industry proposes leaving the CA signing process "as is". Mr. Adams' letter is attached for reference.	No change		OWTS Stakeholder Group	Reject. Agree with comment, but note that owners must sign/notarize acceptance of EOP systems.
154	1937	25	17	Will we receive a Bi-party example	Question	ADD		WNCEHSA	Yes
155	1937	25	17	Bi-Party	Needs to be defined in definitions			WNCEHSA	Agree with modifications
156	.1937 k	25	34	Should not include "repaired" in this rule.	Unless the facility has been condemned by proper legal actions, is it feasible to require a facility to be unoccupied for "repairs" until permits are issued and construction approved?? Delete "repaired" in this sentence.			CSSC	Agree but not in current draft. Will be added.
157	.1937 n or L?	26	4, 8-9	Should this subsection n or L starting on line 4? Line 8-9 Agent's report should cite ALL system specifications and specific rules.	Check if this subsection should be n or L starting on line 4? Line 8-9 Agent's report should cite ALL system specifications and specific rules.			CSSC	Agree and added to draft
158	0.1937	26	4	(n)	Should be changed to "(l)"			WNCEHSA	Agree and added to draft
159	0.1937	26	11	(X)	Should be changed to "(m)" and so on			WNCEHSA	Agree and added to draft
160	1937	26	28-30	Maintenance of Wastewater Systems	For what specifically should we be modifying, suspending, or revoking operation permits	Clarify		Forsyth County EHS	Agree with modifications
161	.1937(X)(3)	26	17 to 19	Don't require additional diagram if no changes are identified.	Allow for referring to Construction Authorization drawings if installed exactly to C.A. plans	Add		ENCEHSA	Agree and added to draft
162	0.1937	26	30	operation	Should be changed to "operated"			WNCEHSA	Agree and added to draft
163	0.1937	26		(lines 4-10) not clear what a "written report" consists of	needs clarification			WNCEHSA	Agree and added to draft
164	1937	27	10	Why are systems other than Type V and VI not on renewable OPs? They are wastewater treatment systems are they not? In fact, if they fail, they are more likely to fail to the environment than a system with a pump or treatment unit (V and VI) which are more likely to back up towards the house. Since we all understand that this may be difficult to do, one thought would be to allow for a pump out/inspection/operator under contract to allow for a free renewal of the OP.	(m) Operation Permits shall expire 60 months after the Operation Permit is issued unless the owner provides documentation that: (1) The wastewater treatment system is being actively operated by a Certified Wastewater Operator on annual or more frequent basis, or (2) The owner provides a receipt showing the system has been pumped out by a Licensed Septic Tank Hauler and a satisfactory inspection report from a Certified Inspector. <this needs some wordsmithing - SMB>	Change		OWTS Stakeholder Group	Reject. Agree with spirit of the comment, but at this time cannot realistically require all systems to have a renewable OP.
165	1937	27	17-22	Authorization for a mobile home in a mobile home park	Do we check all systems in the mobile home park or just the system for the specific mobile home being applied for	Clarify		Forsyth County EHS	Agree with modifications and added to draft
166	0.1937(n)	27	17	existing system check for manufactured home	when a building permit is pulled for an addition out building/structure.			ENCEHSA	Agree with modifications and added to draft

167	0.1937(p)	28	4	valid operation permit	change to a properly functioning wastewater system	change	ENCEHSA	Agree with modifications
168	0.1937(p)	28	6	proposed change of use, location, relocation, or addition to the facility or connection to the system	add the lanaguage of "change in site with a structure"	Change	ENCEHSA	Agree with modifications
169	0.1937	28	*	(lines 3-9) Authorization for an existing system is not specifically defined.	What is specifically required for an "authorization for an existing system"? This is a new requirement, not previously guided by rule and needs to be spelled out.	ADD	WNCEHSA	Agree with modifications
170	0.1937	30	4-Jan	redundant	Two sentences repeat each other		WNCEHSA	Agree with modifications
171	0.1937	32	8	What is "completion statement"?			WNCEHSA	Agree and removed from draft
172	1937	33	14	Why is it necessary to revoke a CA that has expired? Recommend removing item (3) and making suggested comment a new line item.	If the installation has not been completed before the Construction Authorization expires, then a new CA shall be required.	Change	Orange County EHS	Agree and added to draft
173	1937	37	6	Properly operating wastewater systems contain pollutants that result in the presence of toxic gases, vapors, odors, and fumes, and such conditions may cause acute worker health and safety problems due to the atmosphere in the tank or nitrification trench. Line 9 prohibits malodorous liquids, which includes blackwater under almost all circumstances. These requirement are unenforceable and do not recognize normal wastewater system operation.	Delete subsections (G) and (H) on the basis of unenforceability, or modify them to recognize how wastewater systems function and the constituents they handle.	Remove or change	OWTS Stakeholder Group	Agree and removed from draft
174	1937	37	20	A home supplied with radon-containing groundwater will discharge radioactive water to the wastewater system. A person that returns home from medical procedures that includes nuclear medicine will release radioactive isotopes to their residential wastewater system, thereby violating the rules. Prohibiting "wastewater containing any radioactive wastes or isotopes" appears unenforceable and does not recognize many everyday occurrences that people experience.	Delete subsection (I) on the basis of unenforceability.	Remove	OWTS Stakeholder Group	Agree and removed from draft
175								
176	Rule .1938							
177	0.1938			See new definition for Authorized agent.			S Steinbeck	Agree with modifications
178	.1938 a	28	12-18	This Section should have a separate paragraph that specifies the "Engineered Permit Option" responsibility and references the proper Rules to follow.	This Section should have a separate paragraph that specifies the "Engineered Permit Option" responsibility and references the proper Rules to follow.		CSSC	Agree with modifications and added to draft
179	0.1938(a)	28	14	State of North Carolina Board of Sanitarian Examiners	NC State Board of Environmental Health Specialist Examiners	Change	ENCEHSA	Agree and added to draft
180	.1938(b)	25		.1937(g) outlines what is required to be on an Improvement permit diagram, including in line (5) proposed facilities, etc. Would like to see clearer language in .1938(b) about responsibility of applicant for marking said proposed facilities prior to site evaluation.	add requirement to .1938(b) for marking proposed facilities as well as property lines, etc.	ADD	WPEHS	Agree and added to draft

181	0.1938 d	29	6-9	In context of this specific Rule..... Are persons certified / registered solely under NCGS 90A Article 4 educated, trained, experienced, and qualified to perform soils, geological, hydrologic, drainage, and/or engineering evaluations as referenced in this Rule?	Would contact all licensing boards cited for separate written concurrence that persons under NCGS 90A Article 4 are recognized to perform soils, geological, hydrologic, drainage, and/or engineering evaluations.		CSSC	Agree with modifications
182	0.1938(d)	29	5		add the statement back to the rule (let the decision for single lots drainage plans be determined by the LHD)	Change	ENCEHSA	Reject. Not all counties have the necessary expertise to address drainage from multiple lots. This is logically something that the private sector should address.
183	1938	29	10	Applying a Special Site Evaluation requirement to accepted systems for any of the conditions listed under this subsection contravenes North Carolina statues and decisions by the Commission for Public Health in granting accepted approvals under §130A-343.(h). In granting accepted system status under §130A-343.(h), the Commission for Public Health determined that clear, convincing, and cogent evidence showed that the system performs in a manner that is equal or superior to a conventional wastewater system under actual field conditions and granted accepted approval based on this information.	If an accepted system approval allows an increase in LTAR to achieve a greater than 25 percent reduction in nitrification trench length, then such approval should be allowed without a Special Site Evaluation. The section of the rule should exempt accepted systems from Special Site Evaluation requirements unless the accepted system approval requires a Special Site Evaluation or the equivalent conventional system requires a Special Site Evaluation.	Change	Infiltrator Advanced Drainage Systems	Agree with modifications
184	1938	29	11	Special Site Evaluation	Needs to be defined in definitions		WNCEHSA	Agree with modifications
185	.1938 e 2	29	17-18	Soil wetness should be 12 inches, not 18 inches.	Change requirement of Special Site Evaluation for soil wetness to <12 inches for Group II, III, IV soils and <18 inches for Group I soils.		CSSC	Agree and added to draft
186	1938	29	19	Increased ltar	Please clarify (e)(3)	Clarify	Forsyth County EHS	Agree with modifications
187	1938	29	19	It is unclear whether this requirement would apply to an alternating dual-field system where accepted systems are used for effluent distribution. Per the Commission for Public Health's 2015 approval of chambers and EZflow, there is no basis for requiring a Special Site Evaluation for situations where alternating dual-field systems incorporate accepted systems for effluent dispersal. Rule .1969 allow the Commission for Public Health may impose any use, design, installation, operation, maintenance, monitoring, and management conditions pursuant to G.S. 130A-343, and did not chose to do so when accepted systems were approved for use in alternating dual-field systems.	If alternating dual-field systems incorporating accepted systems at an equivalency rating of 4.61 sf/lf require a special site investigation, such a requirement should be removed. Section 130A-343 establishes that accepted system are equivalent to conventional systems, so there is no basis for applying more stringent requirements to accepted systems than are being applied to conventional systems. In addition the Commission for Public Health did not impose such a requirement on accepted chamber and EZflow systems in its 2015 approval.	Change	OWTS Stakeholder Group	Agree with modifications
188	1938	29	19	Why anything over 25%? Why not an increase over 1%...or 4%...or 18%? Where is the justification for the line to be drawn at 25%...especially in Group 3 or 4 soils. It seems like an arbitrary punishment of pre-treatment systems.	Remove "greater than 25 percent" and replace with and "a". Also strike "with advanced pretreatment"	Change	OWTS Stakeholder Group	Agree with modifications

189	1938	29	28	Why restrict a Special Site Evaluation to only Pretreatment Systems with flows over 1500 GPD? Why not conventional systems over 1500 GPD? An argument can be made that since a 1750 GPD conventional system may or may not have engineer and/or operator involvement, it is at MORE risk of having issues than a pre-treatment system that is required to have BOTH.	Strike: with use of advanced pretreatment in accordance with Rule .1970 Advanced Wastewater Pretreatment Systems;	Remove		OWTS Stakeholder Group	Reject. The proposed language is more restrictive than current and does not seem justified.
190	1938	29	31	Artificial Drainage	Is artificial drainage referring to a french drain	Clarify		Forsyth County EHS	Agree with modifications
191	.1938(e)(2)	29	17 to 18	Delete rule e(2)	Delete this part	remove		ENCEHSA	Agree and removed from draft
192	0.19389(e)(4)	29	23	Delete number 4 of e	already addressed in the pretreatment approval	remove		ENCEHSA	Reject. Reasoning is to be able to limit the number of times this is listed in the rules.
193	0.1938(e)(6)	29	30	Delete number 6 of e	not necessary	remove		ENCEHSA	Reject. This is the current rule.
194	0.1938(e)(8)	29	34	add when proposed drainage is to serve two or more lots	to be consistent with rule above	add		ENCEHSA	Reject. Not all counties have the necessary expertise to address drainage from multiple lots. This is logically something that the private sector should address.
195	1938	30	3	Not necessary if line 28 is changed.	Strike	Remove		OWTS Stakeholder Group	Agree with modifications
196	0.1938(10)	30	4 to 22	needs to be reviewed and changed	uplicated information	Review		ENCEHSA	Agree with modifications
197	.1938(e)(10)(D)	30	14-17	Question -- Hydraulic testing and analysis is required only if two or more items listed in rule are used with advanced pretreatment?	i.e. - Hydraulic Testing not required for reduction in horizontal setbacks alone. Hydraulic testing should not be required for only utilizing the reduced setbacks allowed with advanced pretreatment.			CSSC/PP	Agree and added to draft
198	.1938(f)	30	25	This reduces what EHS can permit from 3,000 gallons per day to 2,000. Should leave this at 3,000gpd.	change to 3,000 gpd	change		ENCEHSA	Agree and added to draft
199	.1938(q)	35	26-28	It is often beneficial for an applicant to obtain an Improvement Permit to verify the LCD will approve a site before easements and encroachments are recorded. Often subdivision Improvement Permits are issued based on a preliminary plat and the plat is not recorded until after the lots are approved and permitted. This is often beneficial during property transfers. The Improvement Permit can be issued to an applicant, and then the easements can be recorded after the buyer closes on the property and the deed is recorded in their name. The new language will create a hardship for applicants.	Leave language as in existing rule -- easements and encroachments must be recorded prior to issuance of a Construction Authorization.			CSSC/PP	Reject. If the easements and encroachments are not obtained prior to the IP, the IP may need to be revoked.
200	.1938 (r) (2) (K)	31		include water treatment backwash	... water filtration and treatment backwash...	add		Rob Snow, Alamance	Reject. If backwash includes radiologicals, it will be IPWW and thus require PE.
201	.1938 (r)	30		Committee review if this is necessary to be in rules and guidance on how this could be investigated and enforced.				WPEHS	Agree and removed from draft
202	.1938(e&f)	30		This Rule (e & f) needs some careful rewriting to be clearer and reduce redundancy.				S Steinbeck	Agree with modifications

203	0.1938(f)(6)	31	12	define structure	what does structure mean	review	ENCEHSA	Reject. In current rules and has not created a problem in the past.
204	0.1938(f)(8)	31	22	off-site systems with more than one supply line	Does require engineer certification	change	ENCEHSA	Reject. Have developed a draft off-site approval. Will follow that document for what is included in rules.
205	1938	31	22	Offsite systems	Is (f)(8) referring to 4 individual systems in a commons area? Why 4? Since the reference is to 4 supply lines, does this mean gravity and pump situations?	Clarify	Forsyth County EHS	Reject. Have developed a draft off-site approval. Will follow that document for what is included in rules.
206	1938	32	8	Completion statement	Please clarify the completion statement	Clarify	Forsyth County EHS	Agree and removed from draft
207	.1938(j)	32	5 to 9	Is this referring to all system installs or only ones permitted by P.E.?	If only for those permitted by P.E., then clarify	Change	ENCEHSA	Agree and removed from draft
208	0.1938(j)	32	7	The certified contractor, system owner, or general contractor as applicable, shall give the authorized agent a copy of the completion statement for the wastewater system before the Operation Permit is issued.	delete sentence (no statement needs to be submitted by the installer of the system) .	remove	ENCEHSA	Agree and removed from draft
209	1938	35	25	Remote area	Please remove or define "remote"	Remove/Clarify	Forsyth County EHS	Agree
210	0.1938	35	*	(lines 23-26)This will be very unpopular with small family type subdivisions, although better for the LHD.	May consider some exception for small land splits or divisions that create no more than three lots perhaps...just a thought		WNCEHSA	Reject. If the easements and encroachments are not obtained prior to the IP, the IP may need to be revoked.
211	.1938(g)	35	26	need to add to this sentence that easement is requires when the system and fascility are on two different lots or tracts of land regardless if it is the same owner for both tracts, even if contiguous.	see comment	add	ENCEHSA	Agree and added to draft
212	1938	36	14	Prohibited discharge standards	Will LHD's be required to hand out guidance to applicants regarding these standards since most applicants will not be familiar with them?	Clarify	Forsyth County EHS	Agree and removed from draft
213	0.1938	36		(r)(2)Need to add water treatment and backwash products to prohibited list.	(R) Water treatment backwash products and by-products	Add	Orange County EHS	Reject. If backwash includes radiologicals, it will be IPWW and thus require PE.
214	.1938 (r)	36	13	What is the purpose of these 2 1/2 pages of things that cant be done by the system owner????	Delete page 36 line 13 to page 38 line 11 with the exception of 2(k)	Remove	ENCEHSA	Agree and removed from draft
215	.1938 (r)			Could be in a separate appendice or manual			T Ashton	Agree and removed from draft
216	0.1938	36 -37	*	(page 36 line 13-page 37 line 11) the benefit for public health and environmental conditions is noted but I am not seeing the capacity to enforce these provisions	provide specifics on how this will be monitored and enforced or remove it; creates additional burden for LHD		WNCEHSA	Agree and removed from draft
217	0.1938	36 -37	*	(page 36 line 13-page 37 line 11) the benefit for public health and environmental conditions is noted but I am not seeing the capacity to enforce these provisions	provide specifics on how this will be monitored and enforced or remove it; creates additional burden for LHD		Mtn District	Agree and removed from draft
218								
219	Rule .1939							
220	.1939(a)	38	14	Authorized Agent			S Steinbeck	Agree with modifications

221	1939	39	3	Soil profiles	One soils profile per initial and per reserve. Should incorporate individual soil profiles to represent an area. That area to initiate the forming of an initial area and a reserve area.	Add/Clarify		Forsyth County EHS	Agree with modifications
222	.1939 b	39	3	Change nitrification field to dispersal field.	Change nitrification field to dispersal field.			CSSC	Agree and added to draft
223	.1939(b)	39		Do not specify minimum number of borings in rules. This is something that should not be and can not be standardized for each county.	remove "There shall be at least one soil profile description for the proposed nitrification field and at least one soil profile description for the reserve area"	REMOVE		WPEHS	Agree with modifications
224									
225	Rule .1940								
226	1940	39	23	Stable	What is definition?	Clarify		Forsyth County EHS	Agree with modifications
227	1940	39	32	Runon	What is definition?	Clarify		Forsyth County EHS	Agree and removed from draft
228	1940	39	32	areas of surface water runon needs clear definition	insert the definition in the rule section or define it in the definitions section	add/change		Davidson/Central NCEHSA	Agree and removed from draft
229	.1940 c	39	28	Need allowance for special site evaluations and design of slopes >65% to overcome "unsuitable" classification.	Need allowance for special site evaluations and design of slopes >65% to overcome "unsuitable" classification.			CSSC	Agree with modifications. The allowance for Special Site Evaluations for this and other limitations is covered in .0509(e) (the new .1948(d)).
230	.1940 d	39	32	Need allowance for special site evaluations and design of areas subject to surface water runon to overcome "unsuitable" classification.	Need allowance for special site evaluations and design of areas subject to surface water runon to overcome "unsuitable" classification.			CSSC	Agree with modifications. The allowance for Special Site Evaluations for this and other limitations is covered in .0509(e) (the new .1948(d)).
231	0.1940	39	*	(lines 32-33) New definition is not clear	prefer old definition as it is more pertinent to actual field conditions			WNCEHSA	Agree with modifications
232	.1940 e	40	1	Need allowance for special site evaluations and design of areas subject to slope patterns to overcome "unsuitable" classification.	Need allowance for special site evaluations and design of areas subject to slope patterns to overcome "unsuitable" classification.			CSSC	Agree with modifications. The allowance for Special Site Evaluations for this and other limitations is covered in .0509(e) (the new .1948(d)).
233	.1940 e or f?	40	4	Need allowance for special site evaluations and design of depressions to overcome "unsuitable" classification.	Need allowance for special site evaluations and design of depressions to overcome "unsuitable" classification.			CSSC	Agree with modifications. The allowance for Special Site Evaluations for this and other limitations is covered in .0509(e) (the new .1948(d)).
234	.1940 e	40	1 to 3	COMPLEX TOPO. is most important since it will hve areas of dirvegence and convergence. Poor topo. fails more systems than soil morphology.				S Steinbeck	Agree and added to draft
235	0.194	40	1	Slope patterns	Define unsuitable "slope patterns"	eliminate this rule		WNCEHSA	Agree with modifications
236									
237	Rule .1941								
238	1941	40	21	Suitable	Change to Suitability	Add		Forsyth County EHS	Agree and added to draft
239	0.1941	40	21	Suitable	Replace with, "suitability"	15 feet		WNCEHSA	Agree and added to draft
240	.1941 a 1 E	41	6+	Do not explanation of field soil texturing.	Delete Subsection E and refer to reference.			CSSC	Agree and removed from draft
241	.1941 a 1 F	42	7	Do not explain ASTM test procedures.	Delete Lines 13 - 19.			CSSC	Agree with modification. ASTM standard has changed.

242	1941 (1)(F)	42	7 to 15	Labs that use method ASTM D422-63 Standard Test Method for Particle-Size Analysis of Soils typically present results using ASTM particle size specifications that are different than the USDA NRCS particle sizes defined in the definitions on page 19, line 12. (Larry Baldwin, can you verify this?)	Use USDA NRCS Soil Survey Laboratory Methods			CSSC/PP	Still under discussion
243	0.1941(a)(1)(F)	42	14	Alternative method for partial size analyzes	Include the requirements for collecting a sample for testing soil mineralogy	page 44 line 18-31		ENCEHSA	Agree with modifications
244	1941	43	13	Soil Structure	This table to include ABK or SBK structure with respect to Blocky.	Clarify		Forsyth County EHS	Reject. Talking about size, not other characteristics.
245	1941	43	13	Table IV list prismatic structure as suitable	list as unsuitable instead	replace		Davidson/Central NCEHSA	Reject. Prismatic structure is not always an indicator of expansive mineralogy.
246	.1941 a 2	43	13	>1 inch ped size for Blocky structure is not reasonable for unsuitable classification. Where did this come from?	Blocky ped size should be 2 - 4 inches for suitable classification. Structure is to infer soil conductivity which is mostly preferential flow, much conductivity is in non-preferential soil matrix flow. Need permeability testing statement added to overcome any unsuitable structure classification.			CSSC	Reject. This in what is in the current rules. Changed prismatic to two inches. Prismatic structure is not always an indicator of expansive mineralogy.
247	.1941(a)(2)	43	13	The use of Tables throughout this Section is a good change and should be used wherever practicable.				S Steinbeck	Agree
248	0.1941(a)(2)	43	13	Table IV - prismatic structure should be unsuitable	Change prismatic to unsuitable	Change		ENCEHSA	Reject. Prismatic structure is not always an indicator of expansive mineralogy.
249	.1941 a 3 B	44	15+	Clay mineralogy testing and determination is difficult and unreliable at best. Testing is inconsistent between labs and within labs for similar soil samples.	CEC alternative test for mineralogy should be deleted. If unsuitable mixed or expansive mineralogy is suspected then alternative method should be +24 hr Ksat testing to determine permeability, but more importantly if a steady state can be achieved. If Ksat rate steadily slows (i.e. steady state not achieved) after +24 hr testing then clay mineralogy should be deemed unsuitable, and must be overcome with alternative engineered solutions for wastewater applications.			CSSC	Reject. We have seen no data to support using 24 hour KSAT for mineralogy. We have always been told KSAT is used to confirm LTAR not assign LTAR. LTAR range for a group IV soil is 0.4-0.1 gpd/ft ² , so the ability to use a low LTAR is already being used by LHD's. We have no hardship with leaving Atterberg Limits as an option along with Apparent CEC. Currently the consultant has the option of EOP and .1948 d in which they could use the COLE, LE, and Bulk Density (even X-ray diffraction if they choose).
250	.1941 4	45	29	Organic soils should have allowance for usage where effective drainage and alternative systems can be achieved.	Put in statement that organic soils may be considered for usage where effective drainage and alternative systems can be achieved.			CSSC	Agree with modifications
251	.1941 (3)(B)	44		Should use Ammonium Acetate method like Soil Survey method. Sodium Acetate gives false numbers for kandic soils. Use EPA 9080.	Substitute EPA 9081 for EPA 9080	Change		Orange County EHS	Agree and added to draft
252									

253	Rule .1942							
	.1942 b 2	46	17-18	Soil wetness should be confirmed by >3 - 14 consecutive days of duration pending ambient rainfall amount.	To be consistent with other portions of this rule soil wetness should be confirmed by >3 - 14 consecutive days of duration pending ambient rainfall amounts.			Reject. It appears that the comment may be meshing the lateral flow and oxyaquic issue with the overall soil wetness procedures in .1942. We understand the concern, but even with 14 days of saturation, redox may not be present. We feel as though the current option to capture long-term data would provide for addressing the alternative methods as needed. We also are not certain how to address abnormal rainfall within this method, which can be an issue with being overly conservative during periods of excess rainfall.
254							CSSC	
255	.1942	46	11	Lithochromic	What is the current definition and where is information described from>	Clarify	Forsyth County EHS	Agree and added to draft
256	.1942	46	33	Applicant	It appears that only the "Applicant" has rights to this process. Who is included in the term or definition of Applicant.	Clarify	Forsyth County EHS	Agree with modifications
257	.1942 c	46	24-25	<12 inch soil wetness condition can be overcome through alternative systems and site improvements.	Statement should follow this sentence, "<12 inch soil wetness condition can be overcome through alternative systems and site improvements."		CSSC	Agree but not in current draft. Will be added with modifications.
258	.1942(c)	46	21 to 25	Should include 18" separation for sands, same as .1939(b)	add language similar to .1955(k) regarding 18" if more than 6" is Group I soil	Add	ENCEHSA	Agree but not in current draft. Will be added.
259	.1942	47	7 and10	Owner	It appears that only the "Owner" has rights to this pro	Clarify	Forsyth County EHS	Agree with modifications
260	.1942 e 7	48	27+	The WRI rainfall method needs to deleted and replaced with the 30 day running / moving average method for actual rainfall bracketed within 30 - 100% of normal rainfall. This is standard practice for ambient rainfall and wetness conditions. The WRI method has never worked well and poorly referenced. Many references available on this and used by NOAA and climate analysts.	The WRI rainfall method needs to deleted and replaced with the 30 day running / moving average method for actual rainfall bracketed within 30 - 100% of normal rainfall. This is standard practice for ambient rainfall and wetness conditions. The WRI method has never worked well and poorly referenced. Many references available on this and used by NOAA and climate analysts.		CSSC	Still under discussion.
261	.1942(d)-(h)			addressing alternative procedures for determining soil wetness could be in a separate Appendices or Manual			T Ashton	Reject. These sections are a result of case law and current consensus is that it should remain in rules.
262								
263	Rule .1944							
264	.1944 a	54	2 & 6	The 3 inch thickness should be deleted.	The 3 inch thickness should be removed and replaced with, ".....restrictive horizons are consistently identifiable and contiguous across the site....". Suspected restrictive horizons should also be allowed to be hydraulically tested to determine their character, unsuitability, or suitability.		CSSC	Agree and added to draft

265	0.1944(a)	54	2	a)	Soils in which restrictive horizons are three inches or more in thickness shall be considered UNSUITABLE as to depth to restrictive horizons.		ENCEHSA	Agree and added to draft
266	0.1944	54	2	Three inches or more	Should be changed to, "three inches or less"	ADD	WNCEHSA	Reject. Modified paragraph based on proposed language from ENCEHSA.
267	0.1944(a)	54	7	b)	Soils in which restrictive horizons are three inches or more in thickness and at depths greater than 18 inches below the naturally occurring soil surface shall be considered SUITABLE as to depth to restrictive horizons.		ENCEHSA	Agree and added to draft
268	0.1944(b)	54	10	b)	change to c)		ENCEHSA	Agree and added to draft
269	0.1944(b)	54	13	...accordance with paragraph (b), (c), or (d) of Rule .1948 LTAR and Site Reclassification of this section.	b, c, and d of Rule .1948 does not address how to overcome the restrictive horizon unsuitable soil characteristic.		ENCEHSA	Agree with modifications
270	1944	54	21	Designer	Needs to be defined in definitions	eliminate this rule	WNCEHSA	Agree and added to draft
271								
272	Rule .1945							
273	1945	54	21	Designer	Who or what determines the "Designer"?	Clarify	Forsyth County EHS	Agree and added to draft
274	0.1945	54	21	Who or what is a "designer"?	Needs a clear definition, if other than an engineer or soil scientist	Add to definitions	WNCEHSA	Agree and added to draft
275	0.1945	55	9	Does this now include businesses and commercial operations? It has never before and there is no reason to change this now. The potential public health impacts could be far reaching and serves no useful purpose. In general, the draft version of .1945 confuses well established processes and provides no added value, clarification, or obvious useful purpose.	This should not be expanded to commercial facilities and needs to be clear in the language. I would propose no significant changes to the existing rules here.		Mtn District	Reject. Current rule language allows other than single family home. This is just a clarification of current rules.
276	0.1945	55	*	(lines10-13) Why has this provision been changed to included <u>applications</u> received prior to April 1, 1983? What if the original applicant never followed through and provided an appropriate plat or a site plan, or never had his lot marked for an evaluation? What if the LHD has no record of an application dating back prior to 1983? To my knowledge, no one has ever been required to retain <u>applications</u> from that time period if no permit was issued.	This provision should be removed and the original language retained.		WNCEHSA	Agree and removed from draft
277	1945	55	16 and 10	any proposed additional flow vs any additional proposed flow	Change wording to mirror each other.	Add	Forsyth County EHS	Agree and added to draft
278	1945	55	24-25	many historical lots (25' wide) that are repair exempt are combined for a buildable lot, but each are stand alone lots with property lines. If the system crosses these internal P/L's then repair is required? If you do a parcel recombination to resolve historical lot lines then is a new non-repair exempt lot created	This needs further clarification...	change	Davidson/Central NCEHSA	Reject. Staff have used the pencil and eraser theory to explain this concept: as long as an outside property line remains unchanged lots can be combined and repair exemption is still maintained.

279	.1945(b)	45		Recommend removing statement about nitrification trench can be installed off contour.			WPEHS	Agree with modifications
280	0.1945(b)	54	25	includes all systems	change "nitrification trench" to "nitrification field"	change language	ENCEHSA	Agree with modifications
281	0.1945(d)	55	16	Reversed area required for change of use	remove the change of use requirement of needing a reserved area if it is permitted without a reserved area.		ENCEHSA	Reject. This is what is in the rules currently.
282								
283	Rule .1946							
284	1946	56	23	Usable soil depth	Agree to a definition	Clarify	Forsyth County EHS	Agree with modifications
285								
286	Rule .1947							
287	.1947 and .1948	46-47		.1939, .1947 and .1948 all deal with site evaluation and outcome. It seems somewhat redundant to have this split into 3 different rules.	Recommend looking at possibility of moving .1947 and .1948 under .1939.		WPEHS	Agree with modifications
288	.1947	56	22+	Do not understand the need for this rule if proper site evaluations are done?	Recommend deleting .1947 rule, not needed if proper site evaluations are done.		CSSC	Agree with modifications.
289								
290	Rule .1948							
291	.1947 and .1948	46-47		.1939, .1947 and .1948 all deal with site evaluation and outcome. It seems somewhat redundant to have this split into 3 different rules.	Recommend looking at possibility of moving .1947 and .1948 under .1939.		WPEHS	Agree with modifications
292	1948	57	9_10	The overall site is suitable if all 1940-1947 are suitable	remove sentence of soil depth suitability or further clarify the intent of that sentence	change/remove	Davidson/Central NCEHSA	Agree with modifications
293	.1948 a	57	10	Need to add term "...sufficient useable soil depth AND AREA..."	Need to add term "...sufficient useable soil depth AND AREA..."		CSSC	Agree but not in current draft. Will be added.
294	0.1948(a)	57	8	languagemost limiting "uncorrectable"...	remove uncorrectable	remove	ENCEHSA	Agree and removed from draft
295	0.1948(a)	57	9 to 10	explain overall site suitability based on soil depth	clarification ? Why combine historical .1947 and .1948		ENCEHSA	To simplify and streamline the process. One rule now describes site suitability and classification for use.
296	.1948 c	57	27-28	Need to delete term nitrification trench and replace with dispersal field.	Need to delete term nitrification trench and replace with dispersal field.		CSSC	Agree and added to draft
297	.1948 d	58	9+	Depending upon the soil or site conditions all of this testing may not be necessary.	Recommend on Line 10, "The site specific substantiating data may include the following or other equivalent test data:"		CSSC	Agree with modifications
298	0.1948(d)	57	33	include .1970 advance pretreatment, .1983 Aerobic Drip Irrigation, .1984 Anaerobic Drip Irrigation			ENCEHSA	Agree with modifications
299	0.1948(d)	58	10 to 11	meet standards at the compliance boundary	what is the standard? Proposed for N to be 10 ppm and P average of the river basin at base flow.	Add	ENCEHSA	Agree with modifications
300	0.1948(d)(1)	58	12	grammar	...it could "be" a property line, a water supply well, the array of surface water classification, or ect.):		ENCEHSA	Agree with modifications
301	.1948(d)	58	24	Is pretreatment required for all .1948(d) proposals? If so, is this necessary?			CSSC/PP	Pretreatment is NOT required with all .1948(d) proposals.
302	0.1948(d)(3)	58	24 to 26	The use of advance pretreatment...	"When" advance pretreatment is used...; All 1948d studies don't require advance pretreatment systems.	Change	ENCEHSA	Agree with modifications
303	1948	58	19	Saprolite	Mispelled	Add	Forsyth County EHS	Agree and added to draft
304	0.1948	58	19	Saprolie	Replace with, "saprolite"	CHANGE	WNCEHSA	Agree and added to draft
305	1948	59	4	State shall review documentation from LHD	Who or at what level at the state will receive those requests.	Clarify	Forsyth County EHS	Agree with modifications
306								

307	Rule .1949								
308	01949 (a)	48		Larger house size does not necessarily mean more people or higher wastewater flow. Need to justify why. This will be hard to defend on the local level.	Delete unless there is good justification.			Rob Snow, Alamance	Agree and removed from draft
309	.1949(a)	59	20-28	I work on many >4,000 sq. ft. homes that may have only two occupants. Some 3-bedroom, 1,500 sq. ft. homes have more occupants than larger homes. Many 4 bedroom systems could not be permitted with typical, current lot sizes based on the square footage design flow calculations.	Do not compute design flow based on square footage.			CSSC/PP	Agree and removed from draft
310	.1949 a	59	19+	Do not use square footage for design flows. There is no correlation to square footage and design flow.	Delete square footage language for determining design flow. There is no correlation.			CSSC	Agree and removed from draft
311	1949	59	19-27	Difficult to govern (especially when only issuing an IP) and future expansion will be difficult with odd numbers	Should increase the GPD per bedroom to 150 gpd or 75 gpd per person	DELETE		WNCEHSA	Agree and removed from draft
312	0.1949(a)	59	21-27	how does square footage calculate into flow	explain square footage calculations	add		ENCEHSA	Agree and removed from draft
313	1949	59	21	The majority of permits do not include the heated square footage of the home.	General comment on the implementability of the proposed rule language.	Change		OWTS Stakeholder Group	Agree and removed from draft
314	1949	59	32-34	Unable to govern	needs to be removed	ADD		WNCEHSA	Agree and removed from draft
315	.1949(a)	48		Recommend removing square footage requirements for design daily flow calculations. Will need guidance on how to obtain heated square footage for sizing systems. Proposed building footprints generally much larger than actual home unless in subdivision with lot constraints.				WPEHS	Agree and removed from draft
316	0.1949(c)	59	32	Remove c.		Delete		ENCEHSA	Agree and removed from draft
317	0.1949	49-52 table	21	Larger houses do not necessarily mean more people or flow		Delete unless have a good study to justify.		Orange County EHS	Agree and removed from draft
318	1949	49-52 table	23....	Have no data to support or dispute these numbers				Orange County EHS	Agree and removed from draft
319	.1949 (d) (1)	54		fatas misspelling- "fats"	change to "fats"	change		Rob Snow, Alamance	Agree and added to draft
320	1949	49-52 table		"Warming Kitchen" What is difference between a kitchen and so called warming kitchen for design flow purposes?	Define warming kitchen. Add Comments in Table VII	Add		Orange County EHS	Agree and added to draft
321	1949	49-52 table	24&25	Put this sentence on page 66 line 20 for emphasis.		Move		Orange County EHS	Agree with modifications
322	0.1949	62		bars and cocktail lounges flow desing is based on seating	Change to exclusively fire marshall occupancy which potential could reduce flow design per occupancy	change		ENCEHSA	Agree with modifications
323	0.1949	62		Motels, Hotels with cooking facilities	define cooking facilities and cooking equipment			ENCEHSA	Agree with modifications
324				Dog Kennels, Horse Boarding, Wedding Venues	Add design flow to this chart			ENCEHSA	Agree with modifications
325		64		Day Care Facilities operating hours	increase to 10 to 12 hours	change		ENCEHSA	Agree with modifications
326	1949	62-66	Table 7	Dedicated Mobile Food Unit Commissary	100 gpd/Mobile Food Unit + 15gpd/Employee	ADD		WNCEHSA	Address in guidance
327				w/ Restaurant	Add 65gpd to restaurant septic system per MFU	ADD		WNCEHSA	Address in guidance
328				Wine Tasting/Beer Tasting (single vs Multi)	Add beer tasting to this rule	DELETE		WNCEHSA	Agree with modifications
329				Fellowship Hall - Same users	Doesn't need to be calculated as additional flow if on same septic system as church	ADD		WNCEHSA	Agree with modifications
330				Park Model - some do have laundry	240 GPD on private property	DELETE		WNCEHSA	Agree with modifications
331				After School Program - Same Children	Doesn't need to be calculated as additional flow	ADD		WNCEHSA	Agree with modifications

332				After School Program - Same Children	Doesn't need to be calculated as additional flow	ADD	WNCEHSA	Agree with modifications
333				Garage/Workshop w/ Bathroom	No flow increase if able to work into existing septic system, if unable to then 100gpd	ADD	WNCEHSA	Agree with modifications
334				Event Centers/Wedding/Subdivison's Club house/Amenities/Private facilities without catering	5gpd per fire marshal occupancy	ADD	WNCEHSA	Agree with modifications
335				w/ catering kitchen and grease trap	unknown	ADD	WNCEHSA	Agree with modifications
336				Catering Kitchen defined	needs to be defined in .1935	ADD	WNCEHSA	Agree with modifications
337				Migrant Housing	Should match/mirror Dept of Labor wording	ADD	WNCEHSA	Agree with modifications
338				Fire Substation without Floor Drain ≤ 4 employees	100 gpd	ADD	WNCEHSA	Reject. Starts out as IPWW.
339	1949	65		Church fellowship hall --- fire marshal occupancy is often much higher than actual occupancy uses of church groups	Allow alternative method of calculating number of users.		CSSC/PP	Agree with modifications
340				Ice Cream Parlor	If OSWW no continuous run dipper well	Change	WPEHS	Agree with modifications
341	.1949 Table VII	52		Insert flow defined for EMS base, vol. or full time fire department, police substation, rescue squad, etc.			WPEHS	Reject. Starts out as IPWW.
342	1949	59	19	Why is there a added calculation for square footage?	keep as bedroom only this becomes complicated	change	Mecklenburg/Central NCEHSA	Agree and removed from draft
343	1949	59	19-28	will floor plans be required to be submitted to determine heated ft2. why does the ft2 of a residence change the design flow?	base design flow on number of bedrooms or total listed sleeping occupancy	change	Davidson/Central NCEHSA	Agree and removed from draft
344	1949			Will you consider adding daily flow for horse barn?	Create a daily design flow for horse barns/laundry/facility.	add	Mecklenburg/Central NCEHSA	Reject. Starts out as IPWW.
345	0.1949	59	31	the daily flow per person per day is too low	re-adopt the 1977 rule of 75 gal/person/day	change	ENCEHSA	Reject. No reason to increase daily flow per person based on current system flows.
346	0.1949	62	23	wastewater strength calculations	define and provide method to calculate	add	ENCEHSA	Agree and added to draft
347	0.1949			ice cream shops	include design flow		ENCEHSA	Agree with modifications
348	0.1949			coffee shops	how to determine wastewater strength		ENCEHSA	Agree with modifications
349	0.1949	63		Travel Trailer and Recreational Vehicals design flow	increase the design flow to 120 gpd (original flow design)	change	ENCEHSA	Agree with modifications
350	0.1949	63		Table VII should include flow for Park model RV with laundry as well. Most of them have it, or it is installed outside of unit.	Include flow for Park model RV with flow design flow rate to 175 gpd	Add	ENCEHSA	Agree with modifications
351	0.1949	64		Group home design flow is too low!! People in group homes have all their laundry washed separately, which is why failures are frequent with these establishments.	Put at 150 gallons per person. All group homes we have only have one person in each bedroom. Include the care givers that live there have a design flow for 60 gpd.	change	ENCEHSA	Reject. No reason to increase daily flow per person based on current system flows.
352	0.1949	65		Under Type of Facility, "Fitness center, spas, karate, dance, exercise" change karate	Recommend changing "karate" to "martial arts". There are many types of martial arts studios	Change	ENCEHSA	Agree with modifications
353	0.1949	65		Fellowship hall language is confusing	Is this flow in addition to church flow?	Change	ENCEHSA	Agree with modifications
354	0.1949	66	5	Facilities with a constant water flow shall not discharge to the wastewater system	include water softner and ice machines	Change	ENCEHSA	Agree with modifications
355	1949	66	5	A number of facilities produce a constant flow. With enough fixtures, any large facility produces a nearly constant flow. Coffee and ice cream shops often use a small stream for rinse.	Ambiguous. Rephrase for clarity or remove.	Change	OWTS Stakeholder Group	Agree with modifications

356	0.1949	66	6 to 17	clarification on when adjusted flow requires increase flow design.	Separate first sentence of line 12 from the rest of the information below that sentence. Clarify when flow design should be increase, if only when fixtures are not design to meet low flow fixture rates or anytime the facility is located on the identified highways.		ENCEHSA	Agree with modifications
357	1949	67	7 - 9	BOD's very often exceed 200 mg/l on even residential sites.	Suggest changing that figure to 350+ if you are trying to capture true high strength facilities.	Change	OWTS Stakeholder Group	Agree with modifications
358	1949	67	10	Septic tanks are "pre-treatment" devices. They should be based upon unadjusted flows as well. In fact due to the slow nature of anaerobic digestion, there is argument to be made to increase them significantly more than aerobic "pre-treatment" units	"The design daily flow from Table VII shall be used to determine the sizing of septic tanks and any other "pre-treatment" devices."	Change	OWTS Stakeholder Group	Agree and added to draft
359	1949	67	10	The septic tank capacity should be based on a minimum 48-hour hydraulic retention time.	"The design daily flow from Table VII shall be used to determine the sizing of septic tanks and any other "pre-treatment" devices <u>such that a the hydraulic residence time is at least 48 hours.</u> "	Add	Infiltrator	Reject. No reason to add hydraulic residence time to rule. Can be used by PEs as needed for designs.
360	0.1949	67	26	The design flow of the facility is the "addition" of all the individual design unit flows.	Change "addition" to "sum"	change	ENCEHSA	Agree with modifications
361	0.1949	67	7 to 9	Domestic Strenght of wastewater needs to be consistent	Change to be the same as identify in page 67 line 33. Primarily these numbers need to be the same.	Change	ENCEHSA	Agree and added to draft
362	0.1949	67	8	Typo "Fatas"	Fats		S Steinbeck	Agree and added to draft
363	1949	67	30	Schools are included as examples of domestic strength as well as high strength. Schools are domestic strength in no way.	Strike schools from the domestic strength waste example.	Change	OWTS Stakeholder Group	Agree and removed from draft
364	1949	68	1	60 mg/l TN is too low for new structures with watertight septic tanks. Thousands of data points over multiple facilities over multiple years indicate a more accurate median TN influent strength to be 70 mg/l.	Change 60 mg/l to 70 mg/l unless the objective is to classify most new homes as high nitrogen producers.	Change	OWTS Stakeholder Group	Agree with modifications
365	1949	68	1	The Branch should share the basis to 60 mg/l total nitrogen as being the threshold for domestic wastewater.	Adjust total nitrogen limit if necessary based on literature.	Research	Infiltrator	Agree with modifications
366	0.1949			There needs to be acknowledgement of Flow Equalization / Time Dosing with reference details (as in the current guidance) in a component. Table VII could be Appendices			T Ashton	Agree with modifications
367	1949	68	5	typo	strike: "domestic" Add: "high strength".	Change	OWTS Stakeholder Group	Agree and added to draft

	1949	122	5	<p>In 2005, the Onsite Water Protection Branch published "Performance of Chamber and EZ1203H Systems Compared to Conventional Gravel Septic Tank Systems in North Carolina", authored by Uebler, et al. The report states that of the 303 conventional nitrification trench systems included in the study, 22 were determined to be failing based on the study criteria in the state-led field performance assessment. This failure rate was reported by NCDENR as 7.3%. The Results and Discussion section of the report states:</p> <p>"Finally, it is interesting to note that the average failure rate statewide is 8.4% for systems with an age up to 12 years old. There is much speculation in various arenas about the failure rate of ground absorption septic tank systems, with little or no substantive information to support the speculation. Perhaps a side benefit of this survey will be a defensible failure rate upon which to base future discussions."</p> <p>With the Onsite Water Protection Branch establishing a "defensible failure rate" of greater than 7 per 100 conventional nitrification trench systems, the Branch's 2015-2016 rulemaking initiative is the time for the "future discussions" referenced in the NCDENR report.</p> <p>While the LTARs employed in sizing North Carolina nitrification systems are within the range of many other regulatory jurisdictions around the United States, the state's minimum 12-inch vertical separation for septic tank effluent sets it apart from most other jurisdictions. For example, both Georgia and Virginia use a vertical separation distance double that of North Carolina's, at 24 inches for septic tank effluent. Given</p>	<p>Industry proposes reducing the Table II LTARs by either 0.05 or 0.1 gpd/sf for the top and bottom of the range for each soil texture group as a means of addressing the NCDENR defensible failure rate of 7.3%. This represents an increase in bottom area of 8.3% to 16.7%, depending upon the soil texture, with no greater change than 16.7%. The net result will be an increase in nitrification trench and bed bottom and sidewall area, building additional safety factor into the wastewater system designs. The proposed Table II LTARs are as follows:</p> <p>Group I: 1.1 - 0.7 Group II: 0.7 - 0.5 Group III: 0.5 - 0.25 Group IV: 0.35 - 0.1</p> <p>Similar changes should be made to the three other loading rate tables (saprolite, sand lined trench, and LPP systems) as well as the Branch-issued dispersal wastewater system provisional, innovative, and accepted approvals, such that the change in bottom area ranges from 8 to 17%.</p> <p>For example, using a 3-bedroom home in a Group II soil where a 0.8 gpd/sf LTAR would be used today, a 0.7 gpd/sf would be used under the proposed rule. At 0.8 gpd/sf, 450 sf of trench bottom area would be required. At 0.7 gpd/sf, 514 sf of bottom area would be required. For a 3-ft-wide trench, this equates to an additional 21 feet of trench length, or an</p>	Change	OWTS Stakeholder Group	Reject. The study cited is only one source of information on this and cannot be considered definitive enough to warrant this revision.
368								
369								

				the similarity of North Carolina loading rates with other jurisdictions nationally, North Carolina's comparatively small distance from infiltrative surface to the limiting condition, such as groundwater, is most likely the greatest contributing factor to the elevated failure rate reported by NCDENR.	increase in bottom area of 14%.			
				Increasing the infiltrative surface area can be achieved by reducing the effluent loading rates in Table II from Group I-IV soil textures. The effect of this change will be a larger required trench or bed bottom and sidewall area, building safety factor into future system designs. Each soil texture group includes a range of LTARs from which the design LTAR can be selected, providing flexibility to the soil scientist assessing the site.				
370								
371								
372	Rule .1950							
373	1950			What is the rationale on open and closed loop vertical geothermal wells	Open loop Geothermal same as a non potable well closed loop same as horizontal closed loop	change	Mecklenburg/Central NCEHSA	Still under discussion
374	0.1950			Geothermal wells – open or closed loop vertical bore	Include variance from DWR setback requirement to 25 feet or greater		ENCEHSA	Still under discussion
375	0.1950			Geothermal wells – open or closed loop horizontal bore	increase setback to 15 feet (equal to vertical cut setback requirement)		ENCEHSA	Still under discussion
376	0.1950			Table needs to include above ground swimming pool horizontal setback	Add horizontal setback requirement to be 5 feet	add	ENCEHSA	Agree and added to draft
377	1950	69	table	Well and OSWW need to match	Should match/mirror Private Well rules	ADD	WNCEHSA	Agree and added to draft
378	1950	70	table	Right of Way or Easement lines	Address Setback	CHANGE	WNCEHSA	Agree and removed from draft
379	0.195(b)	70	2 to 5	Any water supply source, including well or spring	restore "b" as previously written	change	ENCEHSA	Agree and added to draft
380	1950	70		Are crawl space foundation drains included in the foundation drain setback. We get questions from consultants if shallow placed foundation drains need to meet the same setbacks as a basement foundation drains?	Have a 10ft setback for crawl space foundation drain.	add	Mecklenburg/Central NCEHSA	Reject. It is cleaner to group all drainage together because if they change the configuration of the house in the course of construction we are covered.
381	1950	70		Is a rain garden considered a Permanent stormwater retention basin or sediment detention basin, or is it considered a Bio-retention area, injection well, or infiltration gallery?	Have a 25ft setback for rain gardens.	add	Mecklenburg/Central NCEHSA	Agree. A rain garden is a bio-retention area. Made consistent with groundwater lowering.
382	1950	70		5' from a burial plot that is a cut?	change to 15'	change	Davidson/Central NCEHSA	Agree and added to draft
383	1950	70		10' from a above ground storage tank yet 5' from a building foundation?	change to 5' or change setback from a building foundation or drip line...	change	Davidson/Central NCEHSA	Agree and added to draft

384	1950	70		15' from a guide wire?	change this to 5'	change	Davidson/Central NCEHSA	Reject. Equipment used in easements likely needs this latitude.
385	1950	70		an exemption is needed to be less than 100' from a well as provided by the current rules	use current language an or incorporate the 2C setbacks	change	Davidson/Central NCEHSA	Agree and added to draft
386	1950	70		should there be a minimum setback for a monitoring well?	set a minimum setback	add/change	Davidson/Central NCEHSA	Agree with modifications
387	1950	70	8 and 9	Foundation drains should not have a 25' setback	Foundations set back of 10'. Except basements		C Brantley	Agree with modifications
388	1950	70	16	Storm water conveyance piping. Closed pipe	Closed pipe should not have a setback at all. This would included gutter drains in its current form	Remove closed pipe from the rule.	C Brantley	Agree with modifications
389	.1950(a)	70		5 ft. setback for tanks and dispersal field from sidewalks and driveways not necessary.	New setback that will create hardship on landowners and additional regulatory burden on LHD. Eliminate new setback.		CSSC/PP	Agree and removed from draft
390	.1950(a)	70		Why is a 15 to 25 ft. setback required for a foundation drain or drainage pipe from tanks for certain slopes and only a 10 ft. setback required from a groundwater lowering ditch or device? Allow tanks to be located within 10 feet of any drain or water diversion. Tanks should be watertight per rules.			CSSC/PP	Agree with modifications
391	.1950(a)	70		In my area, building inspectors are requiring foundation drains around crawl space homes and in some cases homes on slabs. The LHD has been requiring 15 ft. side slope and 25 ft. downslope setbacks from these drains for the tanks and dispersal fields. This setback seems excessive for a crawlspace foundation drain on a shallow footing.	Can this issue be clarified in revised rules? Should a slab or crawl space foundation drain require the same setback as a basement drain or a groundwater lowering device?		CSSC/PP	Agree with modifications
392	.1950(a)	70		Need exception to allow 50 ft. septic tank and dispersal field setback to private well. Without this exception many lots could not be permitted for on-site septic systems.			CSSC/PP	Agree and added to draft
393	.1950 b	70	2+	Exemption for private water well setback needed.	Exemption for private water well setback needed for properly installed, grouted, and encased wells.		CSSC	Agree and added to draft
394	.1950 c	70	6, 8+	Use term dispersal field, not nitrification field.	Use term dispersal field, not nitrification field.		CSSC	Agree and added to draft
395	1950	71	14	Should item 5 apply to 1-4 or is it a stand alone.	Appears to be a typo.		Mecklenburg/Central NCEHSA	Agree with modifications
396	.1950 c	71	10 to 11	ASTM F667 covers single wall 3-24 in. ID. & F667M covers double wall that can and should be allowed to be substituted for PVC that is less impact resistant and not a strong as double wall or smooth core PE.			S Steinbeck	Agree with modifications
397	.1950(d)	73		Why is setback for utility line greater than a water line?			CSSC/PP	Agree and removed from draft

398	.1950(d)	76		Why was supply line setback increased from 5 ft. to 10 ft. for a foundation drain and ditch? Setback is 5 ft. from a basement but the building code requires basements to have foundation drains. As stated earlier, many crawl space homes have foundation drains. These drains should not require a 10 ft. setback to a supply line. The plumbing is run inside the homes, under the homes and through the foundation wall in PVC pipe as allowed by the plumbing code, so why should our supply line need to be 10 ft. from a foundation drain or ditch outside the home?				CSSC/PP	Agree and removed from draft
399	.1950(d)	77		Why is there a 10 ft. setback to a public R/W. The property line setback is 5 ft. and the R/W line is often the front property line. Doe a supply line need to be 10 ft. from an easement line? A >20 ft. easement would be required for a 2 inch supply line.	Require only 5 ft. setback to R/W or easement line.			CSSC/PP	Agree and removed from draft
400	.1950(d)	77		A supply line can cross under a drive, why do we need a 5 ft. supply line setback from a driveway or sidewalk?	This new setback will create hardships for applicants and additional regulatory burdens for the LCD.			CSSC/PP	Agree and removed from draft
401	.1950 (d) (1)	62		AASHTO M252 covers 4-10 in. ID 7 either SW or SC.	either repeat definition of pressure testing method or refer back to .1950 (d) (2) ©			Rob Snow, Alamance	Agree and removed from draft
402	.1950(d)(2)	77	3	Can any of the setbacks in the table for supply lines be reduced? Clarify rule.				CSSC/PP	Agree with modifications
403	.1950 (d)	59		subsection (d) is listed twice	change second (d) to (e) and (e) to (f)	change		Rob Snow, Alamance	Agree and added to draft
404	.1950 (a)	55		What table is this? I believe it is Table VIII. Can all tables be give roman numerals in numerical order? Table VIII before XXVI is confusing. This will help locate things in the rules more easily.	Identify each table with a roman numeral in the order as they occur in the rules.	change		Rob Snow, Alamance	Agree and added to draft
405	1950	55		Setback to foundation. 5' to drip edge not foundation. NC Building code requires drains on foundations.	Structure with no foundation: 5'. Remove "Any building foundation"	Change		Orange County EHS	Agree with modifications
406	1950	55		Recommend including setback to dripline of patio, deck porch stoop.	Patio, deck, porch, stoop, supporting columns or posts, and dripline from aforementioned structures.	Add		Orange County EHS	Reject. Since we allow installations under cantilevered structures, we cannot enforce this. It must be an inground structure from which the setback is measured.
407	1950	55		Setback to foundation. NC Building code requires drains on foundations.Conflicts with foundation having a drain. Application (.1937 (d)(7)) should require foundation drain (yes or no declaration?)		Add		Orange County EHS	Agree and added to draft
408	1950	68	16, 17	Wording of "field" v. "tank" in the following charts				Forsyth County EHS	Agree with modifications
409	1950	70	chart	Burial plot setback of 5'	Shouldn't it be 15'?			Forsyth County EHS	Agree and added to draft
410	1950(b)	70	6	"fields closer than 100'..."	How close can you go?			Forsyth County EHS	Agree with modifications
411	1950	71	6-34	What about HDPE sleeved in something? HDPE is being used more and more for effluent movement on pressure sewers and force mains. It offers a lot of advantages.	Add reference to HDPE. research and include pressure rating comparable to SCD40	Add		OWTS Stakeholder Group	Agree with modifications
412	1950	73	chart	"structures-foundation 10"	10' is less than 15' for basements?			Forsyth County EHS	Agree with modifications
413	.1950 (d) (1)	62		Is this sentence necessary? Repeated in the next part.	eliminate (d) (1)	remove		Rob Snow, Alamance	Agree and removed from draft

414	1950	77	2	Redundant - See (3) immediately below.	Strike	Remove	OWTS Stakeholder Group	Agree and removed from draft
415								
416	Rule .1951							
417	.1951 (a)	64		No reduced setbacks to wells?	Include well min. setback reduction of 50'	add	Rob Snow, Alamance	Agree and added to draft
418	.1951 (a)	64		Reference to Table VIII of rule .1950. This table needs to be identified and labeled in rule .1950	Identify each table with a roman numeral in the order as they occur in the rules.	change	Rob Snow, Alamance	Agree and added to draft
419	.1951 a	80	25+	Why is this restricted to single family dwellings? The exemptions ride with the property not the usage.	Why is this restricted to single family dwellings? The exemptions ride with the property not the usage.		CSSC	Agree and added to draft
420	1951	82	19	wording of "meet" should be "met"	"meet" to "met"		Forsyth County EHS	Agree and added to draft
421								
422	Rule .1952							
423	1952	84	3	North Carolina's current use of a 1,000-gallon septic tank for 3 and 4 bedroom homes provides a 48-hour hydraulic residence time for effluent, which is the typical requirement for primary treatment.	Do not increase the size of septic tanks as proposed in Table XII.	Remove	OWTS Stakeholder Group	Agree and added to draft
424	1952	84	5	Tanks sizing should be left alone. Heated square feet tank sizing will make it difficult for owners/builders to make quick changes to home sizes/rooms during construction.	No Change	No Change	C Brantley	Agree and added to draft
425	.1952	82	30+	Can all the specifications for septic tank construction etc be put into an appendix? Seems needles to state all of this in the rules.	Can all the specifications for septic tank construction etc be put into an appendix? Seems needles to state all of this in the rules.		CSSC	Reject. If tank specifications are placed into an appendix, cannot be enforced.
426	0.1952	85	6	add condition to end of sentence	on both sides of baffle.	add	Orange County EHS	Not sure of comment
427	0.1952	84	3	Change 2000 to 1800 and 2250 to 2000		change	Orange County EHS	Agree with modifications
428	1952	84	Table XII	1200 gallon tanks not readily available	Keep as 1000g or up to 1500g	ADD	WNCEHSA	Agree with modifications
429	1952	85	32	add garbage disposal to rule (b)	add garbage disposal to rule (b)		Forsyth County EHS	Agree with modifications
430	1952	86	1	All tanks should be pumped	Tanks shall only be set where feasible to be pumped		WNCEHSA	Reject. Upon discussion with group, this comment relates to grinder pumps prior to our system, which we do not have jurisdiction over.
431	1952	86	3	Are 4 risers required?	Not Necessary		WNCEHSA	Agree but not in current draft. Will be added with modifications. Will clarify riser requirements.
432	1952	89	22	"stand by power" needs to be defined. Does that mean power to run the panel alarm? Does it mean enough power to run the pumps? for how long? Etc.	Clarify/Define	Change	OWTS Stakeholder Group	Agree but not in current draft. Will be added with modifications. Current term is stand by power system and is an engineering term.
433	1952	90	22	Recommend a high water alarm for siphon systems.	"trip level, additionally a high water alarm shall be activated at a level of 6" above the trip level."	Add	OWTS Stakeholder Group	Agree and added to draft
434	1952	90	30-31	a residential house with a detached garage w/bath will require dual pumps?	This needs further clarification... applies to commercial facilities? NC plumbing code determines the number of water closets needed for a facility or building... this number required will need to be provided on the application	add/change	Davidson/Central NCEHSA	Reject. This comment we believe is misinterpreting section on raw sewage lift stations.
435	1952	91	4	Remove reference to minimum pump off times. Run times can be specified, but it is impossible to specify an off time without a timer control.	Strike reference to minimum off times	Remove	OWTS Stakeholder Group	Reject. References to raw sewage lift stations is in current rules
436	1952	91	10	Change 8 hours to 24 hours without backup power and 24 hour emergency response dialer. Why is this section any different than that for a pump tank? Seems arbitrary. In fact effluent pumps typically last longer than grinder pumps anyway...	Change language to reflect requirements similar to pump tank language above.	Change	OWTS Stakeholder Group	Reject. This language is in the current rules and we have not had any problem associated with it.

437	0.1952	93	26	Liquid depth in inches		Add	Orange County EHS	Agree and added to draft
438	0.1952	94	18	Liquid depth in inches		Add	Orange County EHS	Agree and added to draft
439								
440	Rule .1953							
441	.1953	92	20+	Can all the specifications for septic tank construction etc be put into an appendix? Seems needles to state all of this in the rules.	Can all the specifications for septic tank construction etc be put into an appendix? Seems needles to state all of this in the rules.		CSSC	Reject. If tank specifications are placed into an appendix, cannot be enforced.
442	0.1953	92	25 & 27	change distribution box to distribution device like line 31 and 33.	distribution device	Replace	Orange County EHS	Agree and added to draft
443	.1953 (a)	70		change "distribution box" to "distribution device" to include all devices that need a permit to replace	distribution device	change	Rob Snow, Alamance	Agree and added to draft
444	.1953 (d) (3)	71		liquid depth "in inches"	add "in inches"	add	Rob Snow, Alamance	Agree and added to draft
445	.1953 (e) (3)	71		liquid depth "in inches"	add "in inches"	add	Rob Snow, Alamance	Agree and added to draft
446	1953(f)	95	26	"approved secondary safety mechanism"--State Approved?	Clarify	Clarify	Forsyth County EHS	Agree and added to draft
447	1953	95	30	A vacuum of 5 inches of mercury is required on risers and lids. This pressure is not representative of what a riser system will experience in the installed condition. § 130A-335.1.(4) requires risers to come to within six inches of the finished grade. This would mean that the riser lid will not have the equivalent of 300 psf of soil pressure on it due to its 6-inch burial depth. All other riser system surfaces are vertically oriented. As a "rule of thumb" at the base of the riser 3 ft below ground (max), the lateral earth pressure will be approximately one-third of the vertical geostatic pressure in NC soil textures, or about 100 psf, making the 300 psf requirement unrepresentative of actual field conditions.	Revise this section to reduce the vacuum pressure requirement on the riser system by two-thirds, such that 1.7 inches of mercury must be applied to the riser and lid. Add a requirement allowing verification of watertightness by water filling.	Change	Infiltrator	Still under discussion
448	1953	95	31	It appears that tanks and risers must be tested together in order to gain approval. Thermoplastic tank and riser products are compatible with multiple products and are not limited to installation on a single product.	Propose replacing "and" with "or" to allow testing of the tank or riser. 1) Structural testing of the tank or riser assembly to a vacuum of five inches of mercury for two minutes with a loss of pressure of less than ½ inch. The vacuum test shall not result in:	Change	OWTS Stakeholder Group	Agree but not in current draft. Will be added.
449	1953(g)	73		Structural Proof Testing should meet ASTM C 1227-13 or National Precast Concrete Association Standards for concrete tanks.	Substitute these standards for concrete tanks and add the appropriate standard for fiberglass and plastic tanks.	Change	Orange County EHS	Still under discussion
450								
451	Rule .1954							

452	1954	Global	Global	If the Branch has a sincere desire to address septic/pump tank structural and watertightness quality issues, it needs to implement a rigorous quality program with either in-field testing of installed tanks or unannounced testing of randomly selected tanks by a Branch representative. Unless each tank producer is subject to testing, tank manufacturing quality will not improve. The reason is that there is no incentive for producers to change quality program practices if there is a lack of quality regulation.	Treatment tanks and pump tanks installed in soil wetness currently require a water filling test in the field. Expand this existing requirement by testing all tanks in the field by filling them with water and observing for evidence of leakage will establish a dependable check of tank quality. Neither IAPMO nor CSA allow watertightness testing through vacuum application, and the reason is that the most representative test to ascertain watertightness is by water filling. As an alternative to in-field testing, random unannounced audits of producers can be added to the rule, with testing of tanks in inventory where they are sold performed by the Branch staff or an entity under contract with the Branch to provide independent testing services.	Change	Infiltrator	Still under discussion
453	1954	102	12	Many states currently require the use of NSF 46 approved filters including Indiana, New Jersey, and Georgia. Effluent filters should be required to have NSF 46 approval and also meet the requirements of ASTM C1227. NSF is the only independent organization that tests and certifies effluent filters.	(4) The effluent filter shall be certified by NSF under Standard 46 and meet the requirements of ASTM C1227.	Add	OWTS Stakeholder Group	Reject. Would require Statutory change, 130A-335.1
454	1954	102	12	The Branch has approved the use of thermoplastic tanks having an outlet tee extending less than 40 percent into the liquid depth. This tee configuration complies with both the IAPMO/ANSI Z1000 and CSA B66 national prefabricated tank manufacturing standards.	IAPMO/ANSI Z1000 inlet and outlet device requirements shall be located between 25 and 50% of the liquid depth measured from the liquid surface, as follows: 4.5.2 - Inlet and outlet devices shall (a) be open-topped; (b) extend below the liquid surface between 50% and 75% of the liquid depth, measured from the inside floor of the septic tank; and Industry proposes changing the upper bound in the rules from 40% to 35% as follows: (3) The effluent filter case for a grease tank shall be designed to function as a sanitary tee with the inlet extending down to between 35 and 60 percent of the liquid depth.	Change	OWTS Stakeholder Group	Agree but not in current draft. Still part of larger tank discussion.
455	1954	102	13	Any tank with a filter needs a riser.	All tanks should have risers extending 3 inches above grade. 6 inches above is an eye sore.		C Brantley	Agree and added to draft
456	1954	103	23-24	pipe from the house to the tank falls under NC plumbing code? Shouldn't there be a maximum of amount of pipe in the inlet of the tank?	this needs to be added to the NC Plumbing Code	remove	Davidson/Central NCEHSA	Reject. Agree it should be in plumbing code. Cannot enforce this.

457	1954	104	13	Three 4-inch-diameter openings are required in the baffle wall, which is three times greater than the inlet diameter. No other state in the nation requires a minimum of three holes in the baffle. Modifying current tooling and manufacturing operations to comply with this requirement represents an unnecessary fiscal impact on industry with no useful purpose. Considering the laminar flow conditions in a septic tank, two 4-inch-diameter holes spaced uniformly across the baffle are adequate to promote transfer of clarified liquid from first to second compartment.	Modify the text as follows: (E) A minimum of two 4-inch openings, or at least one four inch opening per 20 linear inches of baffle wall, whichever is greater, may shall be designed into the partition instead of the four inch slot.	Change		OWTS Stakeholder Group	Agree but not in current draft. Still part of larger tank discussion.
458	1954	105	6 - 17	This section needs work. We are describing a situation where the lid is above grade, but that isn't clear. Why are FRP or plastic risers required to have safety grates/nets/or the tank lid etc. within 18" and concrete is allowed to have them deeper? In a situation where the secondary cover is the lid top, it will, by necessity, interfere with the filter removal. Are 4 tamper proof bolts enough? A lock? etc. this just all needs clarification .	"When the access opening is accessible above grade, an internal, secondary..."	Clarify/change		OWTS Stakeholder Group	Agree and removed from draft
459	1954	105	16	Why would this be different that concrete? The inner lid on a septic tank is the barrier and is often deeper than 18 inches.	Should be no deeper than 36 inches to match burial depth of the tank.			C Brantley	Agree and removed from draft
460	1954	105	26	Change this to "nominal 24"" Several manufacturers supply a nominal 24" riser that in fact measures 23.5' on the interior dimension. They are rugged and available in contiguous lengths thereby giving a water tightness advantage. Is there any good reason to exclude their use due to a 0.5" discrepancy on opening size? Where is the justification for 24"? Why not 36" or 48"? Oftentimes the interior lid of the tank is far less than 24" and is made to work.	Change to "24" nominal"	Change		OWTS Stakeholder Group	Agree and added to draft
461	1954	105	31	Define Other components? Valves?				C Brantley	Agree and removed from draft
462	1954	105	31	It is unclear what conditions would trigger a 50% increase in the minimum access opening area shall if system components other than pumps and controls are located in the pump tank or in the riser. Does pipe, a float tree, a pressure bell, a pump pedestal, or other similar, common pump tank-related appurtenances trigger this requirement?	Given the uncertainty of this subsection, industry does not have proposed text. The suggestion is to be more clear, because it appears that many common pump tank construction methods will unnecessarily trigger a 50% increase in minimum access opening area.	Clarify		OWTS Stakeholder Group	Agree and removed from draft
463	1954	108	3	Are all grease tanks/traps going to need 3 compartments?				C Brantley	Agree, however three compartment minimum could be met with two two compartment tanks in series
464	1954	110	10	Tank lids should be lifted by two people	Tank lids shall have at least 2 handles			WNCEHSA	Still under discussion

465	1954	110	27	The draft rules do not allow plastic or glass-fiber reinforced access risers to be retrofitted to a new tank. In counties where risers are not required, a homeowner may desire a riser on the tank to allow easy access to an effluent filter. Any tank should be eligible for riser installation.	Modify text as shown below: (C) Plastic or glass-fiber reinforced access risers may be installed on a new tank when provisions can be made to assure a structurally sound and watertight seal. Approved manufacturer recommendations shall be followed.	Change		OWTS Stakeholder Group	Agree and added to draft
466	1954	115	1	distribution box sizes	Minimum should be 6 inches. Interior. Otherwise people will have to modify or just eliminate current forms			C Brantley	Agree with modifications
467	1954	115	1	Distribution Box's should be listed by volume and not dimension, as long as a minimum opening of either 12"x12" or 12" diameter is maintained for accessibility	Minimum opening dimension shall be 12"x12" or 12" diameter with a depth of 8". The minimum capacity shall be 4 gallons.	replace		OWTS Stakeholder Group	Agree with modifications
468	1954	115	23	Define intermediate reductions?				C Brantley	Agree and removed from draft
469	1954	115	28	Keeping these laterals completely level is very difficult. Most folks don't have them made in a machine shop.	Perhaps, say as level as possible. Not sure on terminology			C Brantley	Agree with modifications
470	1954	116	1	True union ball valve. There are multiple way to accomplish removal for service	Should read taps must be removable for service and cleaning.			C Brantley	Agree with modifications
471	1954	117	10	Filling into the riser is not always feasible.	Fill to outlet piping.			C Brantley	Still under discussion
472	1954	117	30	Randomly selected tanks will only apply if you have multiple tanks in inventory.	Not sure how to adjust this rule, may need to be taken out.			C Brantley	Agree and removed from draft
473	1954	120	8	Tank manufacturers don't need to recertify annually	Needs to be taken out			C Brantley	Agree and removed from draft
474	1954			Can flexible PVC ever be used? Lateral connections rule	Question			Forsyth County EHS	Still under discussion
475	1954	97	7+	Can all the specifications for septic tank construction etc be put into an appendix? Seems needles to state all of this in the rules.	Can all the specifications for septic tank construction etc be put into an appendix? Seems needles to state all of this in the rules.			CSSC	Reject. If tank specifications are placed into an appendix, cannot be enforced.
476	1954(c)	102	1,617	Strike visible markers requirement?	Accurate measurements on OP?			Forsyth County EHS	Reject. G.S. requirement per 130A-335.1
477	1954 c	75		what is the correct method for marking septic tank location? Survey point? Departments that use GPS, is this necessary?	Define method of marking tank location greater than 6".	add definition of method		Rob Snow, Alamance	Agree but not in current draft. Will be added with modifications.
478	1954 (c)	75		Risers should be required over all tanks regardless of depth and management entity.	Require risers over all septic tanks.	Change		Orange County EHS	Agree but not in current draft. Will be added with modifications.
479	1954(e)(16)	103	29	Omit Rule and refer to (15)	Omit?			Forsyth County EHS	Agree and removed from draft
480	1954(e)(22)	104	32	What is "unauthorized access" -- Examples	Clarify			Forsyth County EHS	Agree but not in current draft. Will be added.
481	1954(e)(25)	105	1,617	define "glass-fiber"	Clarify			Forsyth County EHS	Reject. Defined by industry.
482	1954(e)(26)	105	18	Identify which stamp (when multiple) is accurate to set tank				Forsyth County EHS	Still under discussion
483	1954(e)(26)	105	31	Are all electrical components outside riser?	Clarify			Forsyth County EHS	Still under discussion
484	1954(h)(1)	107	3	Clarify the 4:1 ratio in application	Clarify--Two 1000 gallon tanks?			Forsyth County EHS	Agree and added to draft
485	0.1954	107	*	(lines 11-30) can we not get siphon systems out of our rules? This is 19th century technology that no one really uses anymore, cannot be flow adjusted by anyone I know in the business, and I have never observed one in field conditions that works as designed. Just asking.....	remove siphon language?			Mtn District	Reject. Technology is sound if properly installed.

486	.1954(h)	107	31 to 33	Grease trap required at churches w/ commercial type kitchen. .1952(d)(3) says places of public assembly w/ kitchen not commercially-rated shall have grease trap. Aren't churches place of public assembly?	Change to state ALL churches with kitchen must have a grease trap	Change	ENCEHSA	Agree with modifications
487	1954 (i)	81		ASTM 1227-08 has now been updated to ASTM 1227-13. Also add National Precast Concrete Association Standards.	Update to current standard	Change	Orange County EHS	Still under discussion
488	.1954(i)(8)	110	12 to 13	Plastic lids should be accepted when secured in a tamper resistant method.			S Steinbeck	Agree and added to draft
489	1954(p)(7)	116	7	Wording of LTAR versus dose volume	wording		Forsyth County EHS	Agree and removed from draft
490	.1954 (o) (6)	87		Distribution boxes should be placed on a bed of gravel to prevent settling and subsequent uneven distribution.	add	add	Rob Snow, Alamance	Agree and added to draft
491	1954 (o)(6)	87		Distribution boxes should be placed on a bed of gravel to prevent differential settling and subsequent uneven distribution.	Add	Add	Orange County EHS	Agree and added to draft
492	1954 (o)(8)	88		Distribution boxes made of concrete shall have reinforced lids to support live loads. Distribution boxes made of other materials shall meet an ASTM spec minimum live load strength.	Add	Add	Orange County EHS	Reject. We try not to put ourselves in a position to approve every D-box design.
493	.1954 (p) (3)	88		Also specify that the cleanout at the end of the pressure manifold shall be pressure rated	Manifold and manifold cleanout shall be minimally pressure-rated Schedule 40 PVC...	add	Rob Snow, Alamance	Agree but not in current draft. Will be added with modifications.
494	1954 (p)(3)	88		Specify even cleanout at at end of manifold shall be pressure rated. Most manufacturers build the manifold with DWV cleanouts not pressure rated.	Include manifold cleanout	Add	Orange County EHS	Agree but not in current draft. Will be added with modifications.
495	1954(t)(6)	73		Vacuum Testing should meet ASTM C 1227-13 or National Precast Concrete Association Standards.	Substitute these standards for concrete tanks and add the appropriate standard for fiberglass and plastic tanks.	Change	Orange County EHS	Still under discussion
496	0.1954	102	15	Riser should be couple inches larger than lid.		Add	Orange County EHS	Agree with modifications
497	0.1954	102	17	How shall tank be marked.		Add	Orange County EHS	Still under discussion
498	0.1954	103	9	How will movement be achieved especially with a 3 inch pipe		Change	Orange County EHS	Still under discussion
499	0.1954	103	21	How will inlet be sealed		Change	Orange County EHS	Agree with modifications
500	0.1954	103	24	establish a maximum of 6 or 8 inches		Change	Orange County EHS	Still under discussion
501	0.1954	104	7	Will this have a lid or need a riser too.	elaborate	Add	Orange County EHS	Still under discussion
502	0.1954	105	1	Change weights to 40 and 80 pounds		Change	Orange County EHS	Agree but not in current draft. Will be added.
503	0.1954	105	6	provide examples		add	Orange County EHS	Agree with modifications
504	0.1954	105	18-21	prohibit more than one stamp on tank or mark out ones not applicable		Add	Orange County EHS	Still under discussion
505	0.1954	107	5	change from 50 to 40		Change	Orange County EHS	Agree but not in current draft. Will be added.
506	0.1954	107	6	change from 100 to 80		change	Orange County EHS	Agree but not in current draft. Will be added.
507	0.1954	107	8	No double stamps. Too confusing		Add	Orange County EHS	Still under discussion
508	0.1954	110	10	change from 50 to 40 and from 100 to 80		change	Orange County EHS	Agree but not in current draft. Will be added.
509	1954	112	8	Propose (j) (1) (D) in place of (k) (7).	Propose consolidating Rule		Forsyth County EHS	Agree with modifications

510	1954	112	14	The draft rules do not contemplate the use of polypropylene tanks, which are approved by the Branch and are allowed under IAPMO/ANSI Z1000 and can be certified under CSA B66.	Modify text as shown below to allow "thermoplastic" tanks: (l) Thermoplastic tanks shall meet the following minimum construction requirements for all tanks as designed in Paragraphs (e), (f), (g), and (h) of this Rule.	Change		IWT	Agree with modifications
511	1954	112	16	The draft rules limit the plastic tank wall thickness to 0.25 inches, however, IAPMO/ANSI Z1000 and CSA B66 both allow a wall thickness of 5.0 mm or 0.2 in. The Branch has approved polypropylene tanks with a 0.20-in wall thickness, which are being sold in-state at this time. The "Other Than Concrete" tank policy requires CSA B66 certification, which would allow a wall thickness of 0.20 in.	Modify text as shown below to allow a tank wall thickness the conforms with the national standard for prefabricated tank manufacture and current Branch product approvals: (1) The top, bottom, ends, and sides of the tank shall have a minimum thickness of 0.2 inch. The baffle wall must be at least 3/16 inch thick.	Change		IWT	Agree but not in current draft. Will be added.
512	1954	112	19	The draft rules mix requirements for thermoplastic tanks between IAPMO/ANSI Z1000 (materials) and CSA B66 (certification). Both standards include materials standards, but CSA B66 includes a physical strength test requirement, while IAPMO/ANSI Z1000 does not. Requiring certification under CSA B66 achieves the same end result as requiring material specifications from IAPMO and certification from CSA. The draft rules cite outdated versions of IAPMO/ANSI Z1000 and CSA B66.	Modify text as shown below to reference only the CSA B66 standard. Do not cite a date, so the rule stays current with the standard. Note that IAPMO is scheduling a new edition for 2018 and CSA is scheduling a new addition for 2016. (2) Unless otherwise specifically required, thermoplastic tanks shall meet the requirements of IAPMO/ANSI Z1000-2007 and must be Canadian Standards Association (CSA) B66 certified. (2) Unless otherwise specifically required, polyethylene tanks shall meet the requirements of IAPMO/ANSI Z1000-2007, Prefabricated Septic Tanks, section 4.3, Materials – Polyethylene and Thermoplastic tanks must be certified to meet Canadian Standards Association (CSA) B66 certified.	Change		IWT	Agree and added to draft
513	1954	112	21	Specifying a minimum loading in addition to requiring certification under CSA B66 is redundant. The CSA standard sets forth physical structural testing requirements that are verified by an independent third party as part of the certification process. This position is supported on page 119, line 27.	Since item (3) on page 112, line 21 is redundant, industry proposes deleting (3) in its entirety.	Delete		IWT	Agree and removed from draft
514	0.1954	113	14	why is this needed when the scour velocity is achieved upon initial charge up on every event.		Delete on supply pipe.		Orange County EHS	Reject. This requirement is in the current rule and has not presented any problems.

515	1954	115	21	Why min. of 2 feet PH?	Confirm		Forsyth County EHS	Still under discussion
516	1954	115	25	Remove "minimally" -- wording	wording		Forsyth County EHS	Agree but not in current draft. Will be added.
517	0.1954	115	8	shall have fiber in the concrete		Add	Orange County EHS	Still under discussion
518	0.1954	115	31	change 1/2 inch to 3/4"		Change	Orange County EHS	Agree with modifications
519	0.1954	117	32	change five to three		change	Orange County EHS	Agree with modifications
520	0.1954	118	22	Plans should be available at tank yard		Add	Orange County EHS	Still under discussion
521	0.1954	118	32	Should we have a standard for marking unsatisfactory tanks.		Add	Orange County EHS	Agree but not in current draft. Will be added.
522	0.1954	119	5	What should the basic contents of the report contain. Should a form be created.			Orange County EHS	Agree and removed from draft
523								
524	Rule .1955							
525	1955	121	13	Effluent filter under inner lid could be more than 18 inches	this would pose a problem with an inner septic tank lid.		C Brantley	Agree and removed from draft
526	1955	123	11	Six feet centers	Lpp trenches are 18 inches wide and have 5' center spacing. Don't think this should change		C Brantley	Reject. This is the conventional rule, not LPP. LPP spacing is identified in LPP rule.
527	1955	121	7 and 27	(b) has 24" and (d) has 3 feet??	Wording should be consistent, change (b) to 36"		Forsyth County EHS	Agree and added to draft
528	1955	121	11	Global comment: Beginning on page 121 line 11, there are several references to "level" in Rule .1955, including a note on adding a definition, but no criteria defining how to quantify or verify levelness. Page 184 line 33 is an exception, where bed levelness is quantified.	See next comment pertaining to page 125 line 5 and page 184 line 33 for a method of quantifying and verifying levelness for nitrification trenches. Similar criteria should be developed for other uses of the term throughout the rule.	Add	IWT	Agree and added to draft
529	1955	121	30	Clarify the "rock or other protruding obstacles"	Clarify		Forsyth County EHS	Reject. Is self explanatory.
530	1955	121	21	Strike visible markers requirement?	Proposed strike		Forsyth County EHS	Reject. G.S. requirement per 130A-335.1
531	1955	94		Table II LTARs should be in table format by Soil Group and Texture Class for each wastewater classification. Example: domestic LTARs, high strength LTARs and Industrial Process Wastewater LTARs.	Add	Add	Orange County EHS	Reject. This would be very difficult to do based on the variety of parameters that could be involved in high strength and IPWW systems.
532	.1955 c	94		Are you really still going to allow concrete risers to terminate below grade with potential for surface water entry? What is the purpose of risers that terminate below grade, or at grade if the lids are difficult to access for removal?	All ST risers on all systems should terminate above grade. The lid seams should be at least 3 inches above finished grade. At-grade markers are OK if risers are not required.	replace	Orange County EHS	Agree with modifications
533		94			"...and have an opening large enough to accommodate the installation and removal of the septic tank inner lids."	add	Orange County EHS	Agree with modifications
534	.1955 ©	94		Do not allow risers to terminate below or at finished grade. Require 6" above finished grade	require all risers terminate 6" min above finished grade	change	Rob Snow, Alamance	Agree with modifications
535	.1955 (d)	94		"Bottom of tank shall be installed level in undisturbed soil and bedded using appropriate materials" What are appropriate materials?	Define "appropriate materials" or remove		Rob Snow, Alamance	Agree but not in current draft. Will be added with modifications.
536	.1955 e	94		What is a "comparable facility" for supporting data to raise LTAR to max for group? A similar sized house in another state?	Give some guidance as to what constitutes "comparable facilities" and/or acceptable data, either here or in Definitions	add	Orange County EHS	Agree with modifications
537	1955	121	11	outlet pipe install level? What if the outlet pipe extends 1000' to the drainfield?	change to a minimum of 2' of the outlet pipe must be installed level	change	Davidson/Central NCEHSA	Agree but not in current draft. Will be added with modifications.

538	1955	121	28-29	why 3' earth to trench instead of 2'?	change to 2' or maybe 15' from tank to trench		Davidson/Central NCEHSA	Agree and added to draft
539	1955(e)	122	11	Remove PS from all table	Remove PS		Forsyth County EHS	Agree and removed from draft
540	1955	122	34	Replace grease with FOG			Forsyth County EHS	Agree and added to draft
541	.1955(f)	123	7	Allow 1.5 ft. or 18 in. since some LDP systems utilize this width and particularly when being hand dug. What is the justification for limiting trench width ?			S Steinbeck	Agree with modifications
542	.1955(f)	123	8 to 11	Again, what is the justification? keep at current 5 ft. oc min. We should encourage narrow not wider trenches.			S Steinbeck	Agree with modifications
543	1955	124	30-31	why 3' earth used for stepdowns instead of 2'?	use 2'		Davidson/Central NCEHSA	Agree and added to draft
544	1955	125	5	The definition of level does not provide a parameter for checking the condition of the infiltrative surface plane perpendicular to the long axis of the trench.	Amend text as shows - this criterion for side-to-side tolerance has been approved by the Commission of Public Health for accepted systems: (j) Nitrification trenches shall be constructed as level as possible but in no case shall the side-to-side tolerance exceed one-half inch or fall in a single trench bottom exceed one-fourth inch in 10 feet as determined by an engineer's level, laser level, or equivalent.	Add	OWTS Stakeholder Group	Agree with modifications
545	1955	125	20	"provisionalby suitable" again	Remove PS		Forsyth County EHS	Agree and removed from draft
546	1955	125	23	Why 6 inches?	Clarify, examples		Forsyth County EHS	Agree and removed from draft
547	1955	125	26	Installers in some areas of North Carolina verbally report using between 8 and 12 tons of stone to construct 100 feet of 3-foot-long by 1-foot-high trench under Rule .1955(l) (numbering per the draft rules, not current rules). The depth of these trenches is not being verified during inspection. Using the widely recognized conversion factor of 1.5 tons/cubic yard of crushed stone, 100 feet of rock trench should require approximately 16.7 tons of stone ($[3'W \times 1'H \times 100' L \times 1.5 \text{ tons/cy}] / [27 \text{ cy/cf}] = 16.7 \text{ tons of stone}$). Use of less stone than 15 to 16.7 tons/100 feet equates to height and volume storage reductions compared to the minimum requirements in Rule .1955 and represents a preventable violation of the rule. Innovative wastewater system approval IWWS-2002-03-R3 requires the following to validate that the quantity of shredded tire chips is verified in the field:	Modify draft proposed Rule .1955(l) to include a bill-of-lading field check, as follows, to be inserted at the end of proposed Rule .1955(l), on page 126, line 4: Rock shall be accompanied by a freight bill of lading labeled as drainfield aggregate. The bill of lading shall certify that the material meets the requirements of these rules. The installer shall provide a copy of the freight bill of lading as documentation of the type and quantity of rock installed. The installer shall demonstrate that a minimum of 0.05 tons of rock have been installed per cubic foot of trench volume installed. Examples of minimum rock tonnage for 1-foot-tall by 100-foot-long trenches are as follows: 1 foot wide – 5 tons; 2 feet wide – 10 tons; and 3 feet wide – 15 tons.	Add	OWTS Stakeholder Group	Reject. Cover in guidance. Teach LHD to use probe rod to verify gravel depth. Program review will continue to check this with LHDS.

548				<p>"Tire chip aggregate for subsurface sewage effluent absorption systems shipped from approved tire processors shall be accompanied by a freight bill of lading labeled as drainfield aggregate. The bill-of-lading shall certify that the material meets the specifications for drainfield use. Contractors purchasing tire chip coarse aggregate shall retain a copy of the freight bill-of-lading as documentation of the tire chip aggregate size and quality. A copy of the bill of lading shall be provided to the local health department prior to issuance of the operation permit, and shall be retained with the operation permit filed with the local health department."</p> <p>A similar quality and quantity requirement should be applied to stone trenches in order to ensure construction in conformance with Rule .1955.</p>				
549	1955	125	34	No more cap systems at 12"???	Clarify, examples		Forsyth County EHS	Not sure of comment
550	1955	126	1	Why pick on rock systems only? "rock shall not be placed..."	Clarify		Forsyth County EHS	Agree with modifications
551	0.1955	126	8	Comment (TA87)	runoff-definition		WNCEHSA	Agree and removed from draft
552	1955	126	13	"shall" to "should"	change wording to "should"		Forsyth County EHS	Agree with modifications
553	1955	126	13	define or remove "appropriate"	wording of "appropriate"		Forsyth County EHS	Agree with modifications
554	.1955 (g)	95		Distribution devices shall be placed on undisturbed soil or concrete... add gravel	Effluent distribution devices shall be placed level on a solid foundation of undisturbed soil, gravel or concrete...	add	Rob Snow, Alamance	Agree and added to draft
555	.1955 g	95		Effluent distribution devices can be bedded on undisturbed soil or concrete, but not gravel?	Allow gravel to be used as support as well, with minimum 2 ft undisturbed soil between device and trench.	add	Orange County EHS	Agree and added to draft
556	1955 (g)	95		Add Distribution boxes should be placed on a bed of gravel or concrete to prevent differential settling and subsequent uneven distribution not soil.	Add	Add	Orange County EHS	Agree and added to draft
557	.1955(i)	124	31 to 32	Allow the use of Smooth Core (double wall PE see ASTM F-2648			S Steinbeck	Still under discussion
558	.1955 j	96		Trench bottoms follow contour "...unless the authorized agent [determines] that installation...on contour shall not be required" What is basis for not following the rule?	List criteria for specific instances when installation on contour may not be required.	add	Orange County EHS	Agree with modifications
559	.1955 (j)	96		What conditions allow nitrification trenches to not follow contour? Need clarification or could cause problems possibly. If not defining when it's ok to not follow contour, then remove.			Rob Snow, Alamance	Agree with modifications
560	.1955(j)	125	5 to 6	Level should be +/- ¼ in. as measured in any direction.			S Steinbeck	Reject. CPH-approved language based upon this reference to conventional trenches and applied to Innovative and Accepted trench product approvals.
561	.1955(l)	125	27	Thanks for deleting #57, too many fines and poorly sorted			S Steinbeck	Agree
562	.1955(l)	126	1 to 3	Specify PE under F-2648 or double wall/smooth core PE pipe.			S Steinbeck	Still under discussion

563	.1955 m	96		Which "Activities that result in soil disturbance or compaction" shall not occur over the nitrification field or reserve area?	Give specific examples of what is prohibited (e.g., grading, logging, livestock, vehicle traffic), but do not limit to examples	add		Reject. Disturbed covers a wide range of impacts to drainfield and allows for a broad interpretation.
564	1955	123	11	limit spacing to conventional trench systems	Conventional trench systems shall be located not less than three times the trench width on centers with a minimum trench width of six feet	change	B Rubin	Agree with modifications
565	.1955(m)	126	13	"Appropriate vegetation" Confusing and unclear term. What about sites located in woodlands ?			S Steinbeck	Agree with modifications
566								
567	Rule .1958							
568	0.1958	157	7	may be used only for toilet flushing	What about irrigation		WNCEHSA	Reject. Not under our jurisdiction.
569	0.1958(b)	156	26 to 27	Does this not conflict with GS 130A-291.2?			S Steinbeck	Reject. Did not change essence of wording. Referenced statute is activities under jurisdiction of Septage management.
570	.1958(d)	157	6	What is the specific statutory authority for this requirement? Was and still may be with the OSW Program.			S Steinbeck	Agree and removed from draft
571								
572	Rule .1961							
573	0.1961	all	*	(table XIV) If I understand this rule and table, the 5yr LHD requirement to inspect type 3 systems can be a homeowner/private inspector mandate and is not required to be physically performed by the LHD. If that is the case, this is a big improvement and benefit to LHD's.	The changes here should be well-received, but some additional clarification and/or specifics could be useful. For example, what constitutes a proper inspection by an operator? LHD? I would ask for some consideration in this and other aspects of this rule. Also, the AG's office has made it clear that if systems are not "failing" we cannot force compliance based repairs. How can we make system compliance requirements more readily enforceable?		WNCEHSA	Agree with comment, but have gone back to language in current rules.
574	.1961 b 1 C			The "squish" test. Good definition for the determination of a probable public health and / or environmental threat. Not a good criteria for determining if a 12 – 24 month old system is properly demonstrated.			T Ashton	Agree. The "squish" test is used to determine if a system is malfunctioning. The LHD will troubleshoot the system to determine what is the cause of the malfunction.
575	.1961			Guidance on O&M for Enginered Option Permits, what will be required by LHD.			WPEHS	Agree and added to draft
576	0.1961	159	*	(lines 30-34) How are the "owner responsibilities" to be enforced? I can understand a "guidance" document or owner addendum of some kind, but a LHD simply has no enforcement capacity here.	If you cannot explain definitively how these rules are to be enforced and provide clear legal precedent, this and any other non-enforceable provision should be removed from the rules.		WNCEHSA	Still under discussion
577	0.1961	160	10	Service Area	definition		WNCEHSA	Agree and removed from draft
578	1961	160	12	If a property owner has a certified operator as the maintenance entity, but no LHD operation program, a property owner may be without an option to build upon his property. To hold the property hostage due to the inability of the LHD to administer a program is not moral nor is it legally enforceable in my opinion.	Remove lines 12-15	Remove	OWTS Stakeholder Group	Still under discussion
579	0.1961	160	13	after "jurisdiction"	remove -		WNCEHSA	Agree and removed from draft

580	0.1961	160	14	after "status of"	remove -		WNCEHSA	Agree and removed from draft
581	1961	161	9	Mowed or cleared	The area only needs to be accessible, not cleared or mowed		C Brantley	Agree and removed from draft
582	0.1961	161	11	(l)	should be (k) and so on		WNCEHSA	Agree and added to draft
583	1961	165	1	grease trap inspection. 12 times per year by owner	How will this be enforced?		C Brantley	Reject. Owner must maintain records.
584	1961	165	Table	Excluding Type II & III systems from at least an every 5 year inspection is a mistake. The vast majority of our systems in the State fall in this category. As this infrastructure ages, the probability that a public or environmental health problem will occur is increased. A once per 5 year site inspection by the County to at least identify break-outs or surfacing issues would help track any on-going concerns. More frequent inspections may be warranted in some locations. Drones...	Change all Type II-III systems to a once per 5 year inspection. Tied to a renewable OP as mentioned previously.	Change	OWTS Stakeholder Group	Reject. Agree with spirit of the comment, but at this time cannot realistically require all systems to have a renewable OP or to be inspected at least once every five years by LHD.
585	.1961 Table			Management responsibilities: IVa should include drip dispersal			T Ashton	Reject. Drip systems are currently a Type V system and will be listed as a Type V system in future drafts.
586	.1961 Table XIV	102-106		HD min review period for IIIb. Systems is unclear. Are these inspections to be done by HD or private certified inspector?	add "in inches"		Rob Snow, Alamance	Have gone back to language in current rules.
587	.1961 TABLE XIV	102-103		Ivc Remote (off-site) System. Disagree that remote systems should automatically require an operator.	Allow LHD to determine when offsites or remote systems should require operators.	CHANGE	WPEHS	Reject. Will be in line with draft off-site approval.
588	1961	102		Make accepted system IIg system in Table to correspond with former IIIg	Accepted System Iig instead oh lid	Change	Orange County EHS	Reject. Systems are organized in table in a specific fashion, from least to greatest.
589	.1961 (2)	100	34	filter clean or replaced as needed	at least annually	add	Orange County EHS	Reject. Would require Statute change.
590	.1961 (2c)	100	10	service area	definition	add	Orange County EHS	Agree and removed from draft
591	.1961 (2d)	101	17	V(a) and (b) LHD may me public mgmnt entitly	may be too risky for LHD w/o trianing & approval from manufacturer	change	Orange County EHS	Agree. Overall, LHDs did NOT want the option to be the management entity for systems. Based on March survey of LHDs.
592	.1961 (2e4)	101	28	provisions	need to have the provision that either party may terminate contract with notice.	add	Orange County EHS	Reject. Legal issue.
593	.1961 (2f)	102	2	LHD within 48 hours in order "for Owner" to obtain	clarify who will obtain the CA	add	Orange County EHS	Agree and added to draft
594	.1961 (h & i)	101	5,6,7,8	Statements (h) and (i)	should be on OP	replace	Orange County EHS	Agree with modifications
595	.1961 (p)	101	22	routinely	define	add	Orange County EHS	Agree and removed from draft
596	.1961 (p)	101	25	needed	Who determines if needed? Does LHD have right of entry or need to be invited?	change	Orange County EHS	Agree but not in current draft. Will be added.
597	.1961	102-106	24	Health Dept minimum review frequency	How is the review done? On-site inspection, Operator reports, etc.	change	Orange County EHS	Agree with modifications

598	.1961	102-106	24	Public management entity not in table-LHD maintaining?	LHD should not be maintaining systems due to liability (esp. pretreatment systems w/ effluent filters).	change	Orange County EHS	Agree. Overall, LHDs did NOT want the option to be the management entity for systems. Based on March survey of LHDs.
599	.1961	102-106	24	Inspection frequency	Are these frequencies for all systems or starting with certain OP date.	add	Orange County EHS	Still under discussion
600	.1961	102-106	IIIb	HD Min. Review 5 yr provided certified inspector/HD Minimum Insp. Freq.	Unclear: Are these systems being inspected by "either" LHD "or" Private Certified Inspector?	change	Orange County EHS	Have gone back to language in current rules.
601	.1961	102-106	IIIb	Minimum reporting frequency	Who are the reports going to? Owner and/or LHD?	change	Orange County EHS	Agree and added to draft, owner and LHD.
602	.1961	102-106	IIIb	10.4% of OCHD IIIb inspections this year have been NOVs	If Certified inspectors inspecting: need training, NOV reporting procedures, etc.	change	Orange County EHS	Agree with modifications
603	.1961	102-106	Iva	Inspection frequency was 3 yrs, changing to 5 yrs	suggest every 4 yrs	change	Orange County EHS	Agree with modifications
604	.1961	102-106	ivb	Inspection frequency was 3 yrs, changing to 5 yrs	suggest every 4 yrs	change	Orange County EHS	Agree with modifications
605	.1961	102-106	Vf	High Strength wastewater systems	or just "not" domestic. Don't leave out wastewater between "domestic" and "high" strength.	change	Orange County EHS	Agree with modifications
606	.1961	102-106	4	LHD shall use its best professional judgement in requiring repairs	should not do but ask owner to request a variance from rules to use BPJ	change	Orange County EHS	Reject. Rules do not allow for variances.
607	0.1961	159	*	(lines 30-34) How are the "owner responsibilities" to be enforced? I can understand a "guidance" document or owner addendum of some kind, but a LHD simply has no enforcement capacity here.	If you cannot explain definitively how these rules are to be enforced and provide clear legal precedent, this and any other non-enforceable provision should be removed from the rules.		Mtn District	Still under discussion
608	1961	165		the owner of the property is the certified operator(CO). Why does the LHD need to inspect IIIb systems every 5 yrs? Is pump failure the issue or system failure? Why not inspect all systems at a frequency if its system failure...	remove LHD inspection of IIIb or single family residential IIIb	remove/change	Davidson/Central NCEHSA	Agree with modifications
609	1961	165		remote systems require a certified operator? Look at the definition of remote system... Gravity system one inch across a property P/L with an easement.	allow the LHD to make optional to require a CO	change	Davidson/Central NCEHSA	Reject. Have developed a draft off-site approval. Will follow that document for what is included in rules.
610	0.1961	166		IIIg Where do the Chamber and similar gravity system no specifically identified in these rules fit. Needs clarification since it is not clear!			S Steinbeck	Agree with modifications
611	1961	166	Table	"170 - 190" and 80-91 days apart is an admirable goal. The reality is that may not always be possible due to innumerable reasons. Snow, unoccupied houses, water turned off at the beach, water turned off in the mountains, power issues, etc etc etc.	"No closer than 150-210 days apart." This protects homeowner interests while also giving some leeway to operators. & 60-100 days apart for quarterly checks.	Change	OWTS Stakeholder Group	Agree with modifications
612	1961	167	Table	under RWTS "and Treatment Plant Operator".	Change to "and Grade II Biological Wastewater Operator"	Change	OWTS Stakeholder Group	Reject. Change made in G.S. 130A-342 to require a certified subsurface operator and not a Grade II Biological Operator.

613	1961	166-167	Table	Why is the county mandated to visit most of the treatment systems at the same frequency as the certified operator? If there is that much mistrust of the operators, maybe they shouldn't be certified....	Change visitation to annually. Use staffing surplus to inspect Type II and III systems that do NOT have operators...	Change		OWTS Stakeholder Group	Reject. Annual inspection by LHD is for compliance. Instances where visit frequency are identical are justified due to complexity or volume.
614	0.1961	167		IV g Confusing with III d...which is it?				S Steinbeck	Not sure of comment
615	0.1961	168		VI b Thought you gave this to DWQ?				S Steinbeck	Agree and removed from draft
616	.1961 r	169	3+	Need to reference "Private Permit Option" for repair of systems.	Need to reference "Private Permit Option" for repair of systems.			CSSC	Agree and added to draft
617									
618	Rule .1969								
619	1969	Global	---	For systems that treat and disperse wastewater, the Attorney General's office opined on the need for meeting requirements applicable to both treatment and dispersal. Rule .1969 should address this requirement for future applications.	Add language addressing the need for applicants under Rule .1969 to demonstrate adequate performance for both treatment and dispersal where applicable.	Add		Infiltrator Advanced Drainage Systems	Agree with modifications
620	1969	Multiple	Multiple	This is a global comment. Rule .1969 refers to "approval" of systems by a nationally recognized certification body. Rather than approving products in the way the state does, these organizations certify that a product meets the requirements set forth in a standard.	Suggest changing "approved" to "certified". This applies at: page 2 line 10, page 3 line 13, page 4 line 14, page 5 line 12, and page 11 line 17.	Replace		OWTS Stakeholder Group	Still under discussion
621	1969	Multiple	Multiple	Beginning on page 3 line 23, Rule .1969 refers to the "petitioner". Other parts of Rule .1969 use the term applicant. All similar references in Rules .1934 through .1987 use the term applicant.	Replace "petitioner" with "applicant" in Rule .1969 for consistency. This applies at: page 3 lines 23, 26 and 29 and page 8 line 12.	Change		OWTS Stakeholder Group	Agree with modifications
622	1969	Multiple	Multiple	References to H-5 and H-10 are not preceded by an acronym for the American Association of State Highway Transportation Officials.	Add a reference to AASHTO prior to any use of H-5 or H-10. This applies at: page 4 line 19 and page 6 line 11.	Add		OWTS Stakeholder Group	Agree and added to draft
623	1969	Multiple	Multiple	The rule regularly refers to "the State" when it presumably means the Department or the Branch. Since the Commission is also part of the State and needs to be distinguished in the rule from the Department, it would be preferable not to use "the State."	Replace "the State" with "the Department" or "the Branch" throughout.	Replace		OWTS Stakeholder Group	Agree but not in current draft. Still under discussion. Will be added next round.
624	1969	Multiple	Multiple	The word "system" is capitalized in some places when used in connection with a type of approved system (e.g., Accepted System), but not in most cases.	Since these terms are defined terms, we suggest that "System" should be capitalized in all such cases.	Change		OWTS Stakeholder Group	Agree but not in current draft. Will be added next round.
625	1969	Multiple	Multiple	There are numerous instances where "their" rather than "its" and "they" rather than "it" are used to refer to a manufacturer.	Replace "their" with "its" and "they" with "it" where appropriate.	Change		OWTS Stakeholder Group	Agree but not in current draft. Will be added next round.
626	1969	Multiple	Multiple	"I&E" is not an accurate description of the systems covered by the rule (see following comment).	Replace "I&E" with "Alternative" throughout.	Change		OWTS Stakeholder Group	Agree with comment but reject proposed change.
627	1969	1	1 and 3	"Emerging" is not a term used in the statutory framework and is not a good choice of words to describe alternative wastewater systems. "Innovative" does not capture all types of systems addressed by the rule.	Replace "innovative and emerging" with "alternative" in two places.	Change		OWTS Stakeholder Group	Agree with comment but reject proposed change.

628	1969	1	16	While the intent of "a combination" is obvious, the wording could be clearer.	Rewrite to read "a combination of any of the foregoing."	Add	OWTS Stakeholder Group	Agree with modifications
629	1969	2	13	Item (5) does not apply to all applications.	Insert ",where applicable," after "verification"	Add	OWTS Stakeholder Group	Agree with modifications
630	1969	3	35	The wording is awkward.	Rewrite line to read "and shall make a new fee payment as required by G.S. 130A-343(k)."	Change	OWTS Stakeholder Group	Agree but not in current draft. Will be added next round.
631	1969	4	22	Provide an definition for a "data set"	What data must be available to classify the data as a "data set".	ADD	Bio-Microbics Infiltrator	Agree but not in current draft. Will be added next round.
632	1969	4	28	This subsection addresses advanced pretreatment systems and references accepted systems. In the 2015 legislative session, the General Assembly limited accepted system approval of dispersal products in SB 765.	Amend subsection (B) as follows: (B) the system's design and functional similarity to another approved system described elsewhere in these Rules, or to a Provisional or Innovative or Accepted system approved pursuant to this Rule. The system's design and functional similarity shall be equal or superior to the comparable system for all of the following:	Remove	OWTS Stakeholder Group	Agree and reference to advanced pretreatment removed from draft
633	1969	4	34-35	Items iv and v establish parameters that pertain to dispersal systems, rather than advanced pretreatment systems.	Amend items iv and v such that they address wastewater treatment, rather than wastewater dispersal: (iv) method and manner of function for conveyance and application of effluent, and (v) sufficient residence time to achieve treatmentstorage volume; or	Change	OWTS Stakeholder Group	Agree with modifications
634	1969	4	36-37	Does the data from the nationally recognized certification body need to meet TSI and TSII levels?	Add that data from these certification bodies is to be provided and shall meet relevant portions of .1970.	Add	AQWA/ Orengo	Agree and added to draft
635	1969	5	1	"comparable" seems ambiguous.	Clarify. Make more specific.	Change	AQWA/ Orengo	Reject. Term "comparable" is in G.S. 130A-343.
636	1969	5	3	Rule .1969 does not address the steps required to gain approval of an NSF 40-certified advanced wastewater treatment system.	Add information addressing NSF 40-certified system approval requirements.	Add	OWTS Stakeholder Group	Reject. Requirements for RWTS are included in Section .1500.
637	1969	5	8	"Sufficient" seems ambiguous	Make more specific	Change	AQWA/ Orengo	Agree, but comment rejected. This is designed to allow a range of approaches to justifying their product.
638	1969	5	12	What does "exceeds two consecutive years" mean? Does it mean the product has to be certified for two consecutive years?	Better language to define what is meant	CHANGE	Bio-Microbics Infiltrator	Reject. Part of G.S. 130A-343.
639	1969	6	6	Explain item(c) so it makes sense. What does "found to perform acceptably" mean?	Provide examples of what NSF standards you are looking for in terms of certification.	CHANGE	Bio-Microbics Infiltrator	Reject. Part of G.S. 130A-343.
640	1969	6	33	"All data..." Implication is that sites with non-compliant influent are to be included as well. Exclusion of these sites is necessary.	Add language allowing sites with non-compliant influent to be excluded from results.	Change	AQWA/ Orengo	Reject. The reasoning behind submittal of all data is to be able to look at the big picture. Manufacturer has the leeway to specifically exclude data from sites with justification - including non-compliant effluent.

641	19769	7	11	Subparagraph (g)(1) refers to factors to be considered by the Commission in deciding whether to grant Accepted System status. However, the items that follow [(A) through (G)] are mostly data requirements imposed on the applicant. Item (G) is neither a requirement imposed on the applicant nor a factor to be considered, but a directive to the Commission.	Rework this subparagraph to address the concerns expressed.	Change	OWTS Stakeholder Group	Agree and added to draft
642	1969	8	20	The proposed rules exclude a portion of the current rule addressing approval of accepted systems based on having 10,000 systems installed for 8 years.	Add a new subsection(F) as follows, based on current Rule .1969 language: (6) The Commission shall grant accepted status to an innovative system based upon a showing by the manufacturer that there have been at least 10,000 operational systems installed in the state, in more than one county of the state, over at least an eight year period with a total reported failure rate statewide based on records provided by the manufacturer and local health departments of less than one percent. However, the granting of accepted status based upon this criteria shall be conditioned on the manufacturer successfully completing an approved field survey pursuant to Parts (h)(5)(A) or (h)(5)(B) of this Rule within no more than 24 months of being granted accepted status;	Add	OWTS Stakeholder Group	Reject. There is no scenario where this would be needed now.
643	1969	9	8	Change chose to choose or change lose to lost.	grammar	change	AQWA/ Orengo	Agree but not in current draft. Will be added next round.
644	1969	10	32	You do not know the results until you receive the results from the lab.	"resample within 30 days from receiving laboratory results"	CHANGE	Bio-Microbics Infiltrator	Agree but not in current draft. Will be added next round.
645	1969	11	4	The text should be clarified regarding the renewal process and that it is not a reapplication.	Clarify as necessary	Change	Infiltrator Advanced Drainage Systems	Agree and added to draft
646	1969	11	8	Unless there are regulations for revoking an approval you cannot disapprove on a renewal	Change "re-approval" to "information"	CHANGE	Bio-Microbics Infiltrator	Agree with modifications

647	1969	11	29	The draft rule requires manufacturers to report designers, installers, and operators to the state and LHDs. Reporting of these three entities does not apply uniformly to all products. Product approvals already define this requirement in a manner specific to the product.	Amend the text to use the product approval to define which entities must be reported to the state and LHD as follows: (k) AUTHORIZED DESIGNERS, INSTALLERS, AND OPERATORS: Manufacturers of proprietary systems approved under this Rule shall provide a list of manufacturer's authorized designers, installers, or operators, as defined in the product approval, to the State and applicable LHDs, and update this list whenever there are additions or deletions. All designers, installers, and operators shall be authorized in writing by the manufacturer, as defined in the product approval.	Add		Agree and added to draft
648	1969	12	1	Item (b) is confusing.	Clarify the intent.	Change		Agree with modifications
649	1969	12	13	The sentence beginning with "However, reductions up to 25 percent" is unclear as to its meaning and intent.	Provide clarification to the stakeholders and reword the sentence.	Change		Agree with modifications
650	1969	12	17	Include nitrogen and possibly phosphorous. Nutrient overload is a significant concern, and in many cases more detrimental to the receiving environment than BOD, tSS, etc.	Change end of sentence to read "...total suspended solids (TSS) less than 100 mg/l, total kjeldahl nitrogen (TKN) less than 100 mg/l and fats, oil..."	Add	AQWA/ Orengo	Agree with modifications
651	1969	12	19	Each requirement under Rule .1969(l)(1) begins with a verb except Rule .1969(l)(1)(5).	Amend as follows: (5) Prohibit issuance of an operation permit shall be issued for a proprietary system installed by a person not authorized by the manufacturer, unless the manufacturer of the proprietary system specifically approves the installation in writing.	Change		Agree and added to draft
652	1969	12	27	Asking the LHD to prescribe a remedy to problems associated with with a treatment system puts the State at undue risk. While some LHD's have staff with credentials to do so, others do not. Advise consulting a PE or Certified Operator with appropriate training and credentials.	Remove "and steps necessary to remedy the problems"	Remove	AQWA/ Orengo Infiltrator	Agree with spirit of comment. Our intent is that the LHD will direct owner to: file an application, engage a consultant, etc. We will try to state it more clearly.
653	1969	12	30	The wording of item (8) is awkward. The last sentence is unnecessary and is not an LHD responsibility (which is the subject of Paragraph (l)).	Rewrite this item to read as follows: "Include in its monthly activity report to the Department (i) the number of new permits issued for Alternative Systems, and (ii) the number of permits issued for repairs of Alternative Systems and the type of system repair."	Change		Agree with modifications

654	0.1969-.1971			Much of this section and related rules could be placed in technical guidance documents, specific to systems, engineering protocols, design specifics, etc.	There is too much here to do line by line review and I am short of the technical expertise to make useful comments on much of this rule section, but for the sake of simplicity, some discussion of what should be rule and what should be technical guidance is warranted.		WNCEHSA	Reject. If it is not included in the rules it cannot be enforced.
655				Systems approved under .1969 are favorably treated, at least as to approval process, when compared the systems approved specifically by Rule e. g. .1971-.1984. This administrative APPROVAL process puts those systems approved through the rule-making process are greatly disadvantaged. Ex. there are many updates needed for the systems found in Rules .1971-.1984 but these changes have been delayed for decades while the administrative approvals are not subject the the requirements of the APA.			S Steinbeck	Reject. Systems that wish to have a .1969 approval can apply. Most of those in rules lobbied to be there.
656								
657	Rule .1970							
658	0.1969-.1971			Much of this section and related rules could be placed in technical guidance documents, specific to systems, engineering protocols, design specifics, etc.	There is too much here to do line by line review and I am short of the technical expertise to make useful comments on much of this rule section, but for the sake of simplicity, some discussion of what should be rule and what should be technical guidance is warranted.		WNCEHSA	Reject. If it is not included in the rules it cannot be enforced.
659	1970	13	Table VII	Data obtained over a number of years from many new homes indicates raw unblended TKN to be closer to 70 than 60.	Recommend changing effluent TN limit from 30 to 35 mg/l	Change	AQWA/ Orengo	Agree with modifications
660	1970	13	12	A footnote to the table recognizes 2U (reclaimed) rules from DWR. However nowhere in .1970 do we see it again. Are allowances given? If so, where?	Recommend creating new allowances for 2U systems.	Add	AQWA/ Orengo	Agree with comment and reject proposed change. Removed 2U from draft.
661	1970	15 - 16	Tables	These tables seem arbitrary in a number of places	Recommend a flat percentage reduction for each type of treatment and additional reduction based upon the type of dispersal.	Change	AQWA/ Orengo	Reject. These tables are in current rules.
662								
663	Rule .1971							
664	.1971 h 2	172	23+	Drainage effectiveness determinations need to add "....Hooghoudt or equivalent drainage equations." There are many different methods that are applicable for specific site conditions. This rule is overly specific.	Drainage effectiveness determinations need to add "....Hooghoudt or equivalent drainage equations." There are many different methods that are applicable for specific site conditions. This rule is overly specific.		CSSC	Agree and added to draft
665	1971	171	16	"Provisionably Suitable"	wording		Forsyth County EHS	Agree and removed from draft
666	1971	173	26	Why 6 feet? Justify	justify		Forsyth County EHS	Agree and removed from draft
667	.1971(j)	173	22 to 25	Still contains Provisionally Suitable language	Change Provisionally Suitable to Suitable	Change	ENCEHSA	Agree and removed from draft
668	.1971(j)(2)	173	28	Justification? Some equipment can place Drain Pipe in narrow trenches. This requirement is not necessary and can negatively effect the intended performance.			S Steinbeck	Agree and removed from draft
669	.1971(j)(4)	173	31	ASTM 449 for AG. drain			S Steinbeck	Still under discussion
670	.1971(j)(5)	174	1	See Scope Rule...not necessary.			S Steinbeck	Agree with modifications

671	.1971(j)(6)	174	6 to 7	Spec. or ASTM? for geotextile fabric			S Steinbeck	Agree but determine this issue is better addressed in guidance
672	1971	174	8	The draft rules indicate that other artificial drainage devices, including surface diversions and French drains shall comply with 8 NRCS/USDA guidance documents, as referenced in Paragraph (g)(1) of this Rule. Its is not clear how a product such as bundled expanded polystyrene can be used in drainage applications. Bundled expanded polystyrene is used in drainage applications in North Carolina today. More broadly, this practice has been in use nationally for over a decade.	Expand the allowable products by allowing proprietary devices certified by nationally recognized certification bodies, as shown in bold/underline below. (k) Other artificial drainage devices, including surface diversions and French drains shall comply with 8 NRCS/USDA guidance documents, as referenced in Paragraph (g)(1) of this Rule, or be certified for artificial drainage use by a nationally recognized certification body, as defined by G.S. 130A-4 343(a)(6).	Add	OWTS Stakeholder Group	Agree with comment. Still researching options and references for interceptor drain design.
673	0.1969-.1971			Much of this section and related rules could be placed in technical guidance documents, specific to systems, engineering protocols, design specifics, etc.	There is too much here to do line by line review and I am short of the technical expertise to make useful comments on much of this rule section, but for the sake of simplicity, some discussion of what should be rule and what should be technical guidance is warranted.		WNCEHSA	Reject. If it is not included in the rules it cannot be enforced.
674								
675	Rule .1972							
676	1972			Dosing and controls should have criteria for timer panels.			T Ashton	Agree but not in current draft. Will be added.
677	1972 (g)			(g) the disconnect is to be appropriately pressure rated			T Ashton	Agree but not in current draft. Will be added.
678	.1972(l)	113		Control panel requirements, why are an elapsed time meter and event counter required for every pump now?	Remove requirement for all new pumps to have ETM and EC.		WPEHS	Still under discussion
679	0.1972	175	*	(lines 9-15) siphon question again - antiquated technology; not very useful these days (lines 30-31)	remove?		WNCEHSA	Reject. Technology is sound if properly installed.
680	0.1972	175	*	Does every pump system need an elapsed time and dose meter? Not a bad idea, but this was not previously required and installers will complain about the additional expense, etc.	Food for thought.....		WNCEHSA	Still under discussion
681	1972	175	16	The implication is that when duplex pumps are used, you must have two separate fields? Why??	Remove line 16	Remove	OWTS Stakeholder Group	Reject. Current requirement of the rules.

682	1972	175	16	The text should be clarified that separate nitrification fields are required only when the criteria in Rule .1972(b)(1) and (2) apply.	(b) Alternating siphons or pumps shall be used and shall discharge to separate nitrification fields for the following: (1) the design daily flow from a single system exceeds 3,000 gallons per day, or (2) the total length of nitrification trench exceeds 2,000 linear feet in a single system. The alternating siphons or pumps shall discharge to separate nitrification fields.	Change	Infiltrator Advanced Drainage Systems	Agree with modifications
683	1972	176	1 - 3	If pumping downhill, no check valve mandate is warranted. Additionally, why mandate it be put it on the pump side of the union?	Add "If there is a potential for backflow from the conveyance line to the tank, provisions must..." and Strike the last sentence.	Change	OWTS Stakeholder Group	Still under discussion
684	1972	176	14	Why 6 inches?? Due to the GPI of a tank, this can be a widely variable volume. These are certified installers and trained inspectors right? Leave some discretion. Adding such a precise number can create unintended consequences.	Strike "within six inches of" and replace with "above"	Change	OWTS Stakeholder Group	Reject. Current requirement of the rules.
685	1972	176	20-30	many pump manufactures' warranties are voided if plugs or cords are altered which is required when using a control panel. Simple "piggy-back" plug switches in a NEMA 4x enclosure are simple to operate, install, and maintain.	allow use of factory installed UL listed "piggy-back" float/pump controls to be used in a NEMA 4x enclosure	add/change	Davidson/Central NCEHSA	Still under discussion
686	1972	176	21-22	This requirement will exclude reliable products currently in use in North Carolina. Manufacturers that use UL-listed components may not have the panel UL listed as a whole.	Modify text as shown: Underwriter's Laboratory or an equivalent third party electrical testing and listing agency shall list the panel or the panel components.	Add	Infiltrator	Agree with modifications
687	.1972(j)	176	6 to 7	non-corrosive rope or chain language should be changed	Include "rot-resistant" for rope	Add	ENCEHSA	Agree with modifications
688	1972	176	25	This requirement will exclude reliable products currently in use in North Carolina. A solid state relay can also be used to serve in the role of the required motor contactor.	Modify text as shown: (3) a motor contactor or solid state relay which breaks all current to the pump and controls;	Add	Infiltrator	Agree with modifications
689	1972	176	26	There are good reasons to NOT have a latching HOA switch.	strike "latching"	Change	OWTS Stakeholder Group	Agree with modifications
690	1972	176	28	This requirement will exclude reliable products currently in use in North Carolina. Use of a power indicator light serves the same purpose as a pump circuit power light.	Modify text as shown: (6) a pump circuit power light; A power indicator light;	Change	Infiltrator	Agree with modifications
691	1972	176	29	This requirement will exclude reliable products currently in use in North Carolina. Use of visual and audible alarms serve the same purpose as an alarm circuit power light.	Modify text as shown: (7) an alarm circuit power light; Visual and audible alarm.	Change	Infiltrator	Agree with modifications

692	0.1972	177	1	Why are we wanting to go 36" above finish grade? Property owners already try to hide these in creative and often destructive ways.	12" was just fine...no need to change and no PH value		WNCEHSA	Agree with modifications
693	1972	177	11	Duct seal really isn't reliable over the long term. Recommend looking at NEC to see what it says regarding conduit seals. Probably oil seals or wire grips are the way to go.	Research	Change	OWTS Stakeholder Group	Agree with modifications
694	1972	177	30	Pressure head measurement may not be possible without special provisions for pump to dbx configs	Strike, or add "as applicable"	Change	OWTS Stakeholder Group	Agree with modifications
695								
696	Rule .1973							
697	1973	179	25	Which soil groups can be used?	Explain		Forsyth County EHS	Agree with modifications
698	.1973 (7)			30% is a pretty steep lower limit for requiring stabilization plan for at-grade cover	Require above 20-25%?	change	Orange County EHS	Reject. Staff and many other constituents did not object, including Mountain counties.
699								
700	Rule .1974							
701	.1974	180	1+	Statement needs for to be added for fill systems that usable soil area is defined as area extending 5 ft from perimeter of the dispersal field, and does not include the fill slope taper for stability. This has been an inconsistent interpretation and needs to be clarified.	Statement needs to be added for fill systems that usable soil area is defined as area extending 5 ft from perimeter of the dispersal field and does not include the fill slope taper for stability. This has been an inconsistent interpretation and needs to be clarified.		CSSC	Agree and added to draft
702	.1974(f)	181	15	States final cover shall be six inches. Does not account for "turtle back" shape over system to facilitate positive drainage	Change to final cover at least six inches.	Add	ENCEHSA	Agree and added to draft
703	.1974(L)(iv)			regarding connection to public sewer to be should be in recognition of and in accordance with local requirements			T Ashton	Agree and removed from draft
704								
705	Rule .1975							
706	1975(2)(A)(B)			in appropriate reference to .1970 and hydraulic assessment			T Ashton	Agree with modifications
707	1975	184	29	Rule .1975 does not establish sizing for a bed receiving septic tank effluent.	Carry the current Rule .1955 requirement to future Rule .1975, as follows: The number of square feet of bottom area needed shall be increased by 50 percent over what would be required for a trench system.	Add	OWTS Stakeholder Group	Agree and added to draft
708	1975	185 190	26 10 and 13	Rule .1975(b)(3) requires the total number of square feet of bottom absorption area for a bed system receiving aerobic effluent from an advanced pretreatment system compliant with NSF-40 or better to be determined by Rule .1955 (c) and increased by 125 percent, with no further reduction of bed size allowed. Rule .1975(d)(9) and (13) contradict the requirement in Rule .1975(b)(3), allowing bed footprint reductions.	Suggest adjusting text to clarify the apparent difference in bed sizing requirements for effluent quality better than NSF 40.	Add	OWTS Stakeholder Group	Agree with modifications
709	1975	185	8 and 13	Rule .1985(a)(4) and (6) appear to be redundant, addressing the same issue.	Delete either Rule .1985(a)(4) or (6) to eliminate the redundancy.	Remove	OWTS Stakeholder Group	Agree and removed one from draft

710	.1975 c 14	189	1	Should use consistent terms, e.g. replacement.			S Steinbeck	Agree and added to draft
711								
712	Rule .1976							
713	.1976	191	23	Clarify loading rate. Why base the rate on overlying	potentially Unsuitable soils?? LTAR would be 0.		Forsyth County EHS	Still under discussion
714	.1976	192	1	System sizing should be increased to address the rate of malfunction. See comments associated with page 122 line 5.	See comments associated with page 122 line 5. Revise Table III(c) as discussed previously.	Change	OWTS Stakeholder Group	Still under discussion
715	.1976	192	17-	table XIV says gravity sand lined trench-CO not required	add that gravity sand lined trench, Co not required	add	Davidson/Central NCEHSA	Agree and added to draft
716	.1976	195	14	System sizing should be increased to address the rate of malfunction. See comments associated with page 122 line 5.	See comments associated with page 122 line 5. Revise Table III(b) as discussed previously.	Change	OWTS Stakeholder Group	Still under discussion
717								
718	Rule .1977							
719	.1977	196	15	requirements seem excessive.			Forsyth County EHS	Agree with modifications
720	.1977(c)(2)	130		Define "split samples" for textural analysis	Add definition	ADD	WPEHS	Agree with modifications
721	.1977(g)(2)(B)	197	9	Exception to allow a 50 ft. setback to tanks is allowed in saprolite rule, but not described in rule .1950.	Exception to allow 50 ft. setback between the tank and dispersal field should be allowed for other systems.		CSSC/PP	Agree with modifications
722								
723	Rule .1978							
724	.1978	197	25-	include the minimum soil depth needed for 8" or 10" LDP	must have a 12" separation... outside diameter of pipe " plus 12"= ??? Or refer to shallow systems where 24" is needed	change/add	Davidson/Central NCEHSA	Agree with modifications
725	0.1978	197	24	The new rule designation is a welcome improvement to this Section. Each system in this Section of the Rules should be stand alone as much as possible.			S Steinbeck	Agree
726	0.1978	197	24	Change rule to to Large Diameter Pipe Systems. Also, see attachment for rewrite of new Rule .1978.			S Steinbeck	Agree and added to draft
727	.1978	198	1	why limit to 8 and 10 inch, 12 inch diameter pipe is suited	LDP is 8 ID", 10" ID, 12"ID or larger ID totally or partially encased in nylon, polyester...	addition	B Rubin	Reject. Only 8 and 10 approved. No information on 12 inch LDP provided to support addition of this pipe size.
728	0.1978	198	1	Add 12 inch pipe.			S Steinbeck	Reject. Only 8 and 10 approved. No information on 12 inch LDP provided to support addition of this pipe size.
729	0.1978	198	5	Referenced Table does not exist see rewrite of Rule .1978.			S Steinbeck	Agree and added to draft
730	.1978	198	3	no specificity on trench spacing, suggest 3X excavated trench width	no trench spacing is specified, I suggest 3 times excavated trench width with a minimum of 5 feet for excavated trenches and 4.5 feet for hand-dug trenches using 8 inch LDP, 6 feet for all others.	change	B Rubin	Agree with modifications
731	0.1978	198	16	Add 3 ft. wide trench for 12-inch pipe.			S Steinbeck	Reject. Only 8 and 10 approved. No information on 12 inch LDP provided to support addition of this pipe size.
732	0.1978	198	17	Change to 1.0, eventhough max. LTAR is 1.2 for Grp. I texture.			S Steinbeck	Agree and added to draft

733	0.1978	198	25	Make optional as to soil texture. Fabric wrap not necessary since orifices are positioned in the valleys of the corrugations.			S Steinbeck	Reject. Additional information must be provided to justify this new trench configuration.
734	0.1978	199	22	DELETE Table and amend as shown on attached rewrite.			S Steinbeck	Agree and added to draft
735	0.1978	199	24	Optional depending on texture of soil where installed. Also, due to the unique construction of corrugated PE and the holes blocking is not a problem and direct contact with soil is now found to be preferable.			S Steinbeck	Reject. Additional information must be provided to justify this new trench configuration.
736	0.1978	200	3	ONLY the center line must be level since the preferred installation method for LDP is to excavate the trench bottom to match the curvature of the pipe.			S Steinbeck	Reject. The pipe needs to be level.
737	0.1978	200	3	No fall, use ½ in. +/- as measured in any direction.			S Steinbeck	Reject. Used levelness requirement that is in current rule.
738	0.1978	200	7	Remove			S Steinbeck	Agree and removed from draft
739	0.1978	200	8	The proximal Reducer size varies with PE tubing OD, e.g. 4-8, 4-10, & 4-12.			S Steinbeck	Agree with modifications
740	1978	NA	NA	general comment, large diameter pipe utilized in fine sands could easily utilize a half-wrap and an unprotected bottom.	comment no action necessary	comment	B Rubin	Comment acknowledged
741	1978	NA	NA	general comment, rule and administrative procedure should be clarified regarding systems addressed in rule and systems addressed through administrative procedure	comment no action necessary	comment	B Rubin	Comment acknowledged
742								
743	Rule .1979							
744	1979(4)e			Says gravel should be gravity	Typo	Typo	Mecklenburg?Central NCEHSA	Agree and added to draft
745	1979	201	14	(F) and (G) - isn't this the same thing	(G) should say 75ft or greater		WNCEHSA	Agree and removed from draft
746	1979	201	14	Is this saying you can use a pressure manifold on panel systems with line lengths between 50 and 75ft? If so the next line says it has to be pressure dosed for line lengths over 70 ft. We were under the understanding that the manufacture did not specify panel lines over 70ft long.	Clarify	Clarify	Mecklenburg/Central NCEHSA	Agree and removed from draft
747								
748	Rule .1980							
749	1980	202	17	if 25% reduction systems are 25% better than gravel(or any system that receives a reduction in line length) then can you take a further reduction off of gravel if using a valve system?	remove applies to gravel trenches or further clarify than not further reduction is granted when using a valve system.	change	Davidson/Central NCEHSA	Agree with modifications
750	1980	202	17	"conventional trenches" Does this term include all gravity flow dispersal systems?			S Steinbeck	Agree with modifications
751								
752	Rule .1981							
753								
754	Rule .1982							

755	.1982-.1985			Way too much technical information and protocol overload here.	Much of this section could be provided as technical guidance and not "rule" per se.		WNCEHSA	Reject. If information placed into an appendix, cannot be enforced.
756								
757	Rule .1983							
758	0.1983			See Tom Ashton's suggestions				Still under discussion
759	.1982-.1985			Way too much technical information and protocol overload here.	Much of this section could be provided as technical guidance and not "rule" per se.		WNCEHSA	Reject. If information placed into an appendix, cannot be enforced.
760								
761	Rule .1984							
762	1984	218	19-26	12" and 13" why two different depths	clarify		Forsyth County EHS	Still under discussion
763	0			See Tom Ashton's suggestions				Still under discussion
764	.1982-.1985			Way too much technical information and protocol overload here.	Much of this section could be provided as technical guidance and not "rule" per se.		WNCEHSA	Reject. If information placed into an appendix, cannot be enforced.
765								
766	Rule .1985							
767	.1982-.1985			Way too much technical information and protocol overload here.	Much of this section could be provided as technical guidance and not "rule" per se.		WNCEHSA	Reject. If information placed into an appendix, cannot be enforced.
768								
769	Rule .1986							
770	.1986	228	15	The rule for Engineered Permit Option needs to closely follow the NCGS Law. The law was quite specific as to its' requirements. It may be best to make a broad explanatory statement within these rules and reference the law directly.	The rule for Engineered Permit Option needs to closely follow the NCGS Law. The law was quite specific as to its' requirements. It may be best to make a broad explanatory statement within these rules and reference the law directly.		CSSC	Agree and added to draft
771								
772	Rule .1987							
773	1987	162		It sounds like pipe and gravel have to be removed	Why? Only ptank and piping to and from need be removed.	Change	Orange County EHS	Agree with modifications
774	.1987 e,f	162		What "components" must be abandoned? The methods listed under .1987.e.7. A-C seem to apply to tanks and d-boxes, but the language in .1987.f seems to imply that drainfields as well as tankage are to be removed or otherwise abandoned. I see no justification for requiring the expense and site disturbance involved in abandoning trenches in every case; rather, this should be left up to the LHD/AA on a case-by-case basis as needed.	List which components MUST be abandoned. Describe approved methods of drainfield abandonment in detail, or (highly recommended) restrict rule to tanks/piping/d-boxes. At most, requirement for drainfield abandonment should be left to discretion of LHD/AA	change	Orange County EHS	Agree with modifications
775	.1987 h	162		Does "written approval" of AA imply that the abandonment has been inspected?	Require inspection of all abandonments by LHD/AA	add	Orange County EHS	Agree with modifications
776	1987	228	28	Written Record of Aband, is this a form?	Will the State provide a Form or Letter?		WNCEHSA	Agree with modifications
777	1987	230	19	We have to inspect the abandonment!			Forsyth County EHS	Yes