THE STATE OF SOUTH CAROLINA
IN THE COURT OF APPEALS

APPEAL FROM THE ADMINISTRATIVE LAW COURT
The Honorable Ralph King Anderson, III
Administrative Law Judge

Case No. 2017-002598

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SC Court of Appeals

CHARLES S. BLACKMON AND SOUTH CAROLINIANS FOR RESPONSIBLE AGRICULTURAL PRACTICES, ... APPELLANTS,

v.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL, AND DAVID COGGINS BROILERS, ... RESPONDENTS,

CHARLES S. BLACKMON AND SOUTH CAROLINIANS FOR RESPONSIBLE AGRICULTURAL PRACTICES, ... APPELLANTS,

v.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL, AND HEATH COGGINS BROILERS, ... RESPONDENTS,

CHARLES S. BLACKMON AND SOUTH CAROLINIANS FOR RESPONSIBLE AGRICULTURAL PRACTICES, ... APPELLANTS,

v.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL, AND JIM YOUNG BROILERS, ... RESPONDENTS.

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MS. TAYLOR: Okay. I will sit down.

THE COURT: Okay. We try to provide comfortable seats so y'all can enjoy them.

(Off the Record)

THE COURT: So, y'all rest?

MS. TAYLOR: We rest, Your Honor.

MR. MUSTIAN: Your Honor, at this time, we would like to make a directed verdict motion under Rule 41(b).

THE COURT: A directed verdict motion would be (unintelligible) and so that's not the appropriate motion. Involuntary nonsuit.

MR. MUSTIAN: Involuntary Nonsuit.

MR. HIGHTOWER: Judge Anderson is the only one that stresses that.

THE COURT: Well, if I'm the only one, then I need to teach my other judges the proper rule of law.

MR. MUSTIAN: I will write that down. May I be heard on that motion at this time, Your Honor?

THE COURT: Yeah. Briefly.

MR. MUSTIAN: Your Honor, Petitioners, as the parties challenging DHEC decisions in this case, they bear the burden of proving by the preponderance of the evidence that DHEC's decision to issue the permits at issue in this case constitute

either a violation of the constitutional or statutory provisions, was made upon unlawful procedure, was effected by error of law, is clearly erroneous in view of the reliable probative and substantial evidence, was arbitrary and capricious in an abusive discretion or prejudice the Petitioners' substantial rights. That's been recognized by the Courts in Young vs. South Carolina Department of Health.

THE COURT: Not necessarily in that order, though.

MR. MUSTIAN: Understood. Yes, Your Honor. And obviously other cases as well. In addition, Your Honor, Petitioners have to show by a preponderance of the evidence that DHEC failed to satisfy the regulatory criteria governing the issuance of the permits. And that was specifically addressed in Anonymous vs. State Board Medical Examiners holding that the standard of proof in an administrative proceeding is generally the preponderance of the evidence. Your Honor, based upon the record that has been established by the Petitioners in this case thus far, they totally failed to meet their burden of proof that DHEC was in error in

granting the permits. The record has shown thus far that each of the permits has satisfied the regulatory criteria with respect to the setbacks and Petitioners have not demonstrated that any of the setback requirements were violated.

With respect to air quality, Petitioners, as we have just discussed, they have presented no evidence that the facilities would cause an increase in air pollution or any additional emissions.

With respect to water quality, the record reflects that DHEC is mandated that these facilities be no-discharge facilities. They have identified only one other producer, which is not relevant to this proceeding, who allegedly had an uncovered manure pile on their property. And they're asking this Court to draw inferences from that, that that therefore means that there will be discharges and pollutions of the state added based on that limited evidence. However, they failed to demonstrate that there was any runoff from that manure pile, that any runoff actually reached the waters of the state or that there was any pollution along those lines. They failed to present any evidence that

Mr. Coggins' current facility discharges pollutants in the waters of the state or that, as proposed, that it will be a result of pollutants into the waters of the state. Accordingly, they failed to demonstrate that DHEC was incorrect in its decision in that respect.

Regarding the land application of manure, my clients propose to use manure brokers who will handle the manure. So, they failed to present any evidence that those brokers will spread manure fields within the Little River, which would allegedly create additional contamination, and therefore that there will be -- they have not presented any evidence that there will be any additional impairment in that regard. With respect to Jim Young's facility, who does have land application sites, those sites were located outside of the Little River watershed and so no additional impairment could result from those sites.

With respect to both of the facilities and the land applications sites, as we've discussed today and yesterday, Dr. Hargett has recognized that riparian and vegetative buffers are

effective in reducing pollutants and any runoff. As well, he has not been able to opine about the levels of pollutants that would reach the Little River from these facilities, if at all, if there is any discharge. He's acknowledged that DHEC looks at the application as proposed and if the Applicant will operate as proposed. He acknowledged that pollutant issues would be, if they didn't operate in compliance, which is an enforcement issue, not a permitting issue.

With respect to Dr. Hargett and Mr. Stewart's concerns about erosion and stormwater on the sites, they testified that the stormwater permits are a separate regulatory process from the agricultural permits. They both acknowledge that there are methods and techniques, such as terracing, pipe drops, high velocity fabric that could be installed and that are effective in addressing erosion and sediment issues, along with the vegetative buffers and the riparian buffers, that they have acknowledge would be -- or Dr. Hargett acknowledged would be effective. He also -- with respect to pollutants, he doesn't know if there would be pollution and if it would be de minimis, but he hasn't presented

-- they have not presented any evidence as to what level of pollution may occur should these facilities not operate in compliance. And that issue is not what was before DHEC when it considered whether or not these permits met the regulatory requirements. Thus, the Petitioners have failed to show that DHEC was required to consider stormwater issues in issuing these permits or that the sites failed to meet any criteria for agricultural facility permits under 61-43.

With respect to the failure of other operators to comply with the regulations, that's irrelevant. Whether or not another operator is in violation does not pertain to whether or not these Applicants will comply with the law and are required to comply with the law. Even so, the record reflects that, upon learning of the alleged violations of these operators, the record reflects that DHEC promptly responded and addressed those issues in its enforcement capacity.

Regarding the 900-foot setback, that statute is not under DHEC's authority. And the Petitioners have failed to demonstrate that DHEC

erred by not considering that issue. Even so, my clients have stipulated that they're willing to waive that restriction and make that an additional special condition of their permit. Therefore, that issue has been rendered moot.

In sum, Petitioners have not demonstrated any evidence, much less a preponderance of the evidence, that DHEC erred in its decision to issue the permits to my clients. To the contrary, we submit, Your Honor, that Petitioners' case in chief has actually demonstrated why DHEC was correct in granting the applications. Accordingly, my clients respectfully request that the Court grant our motion at this time.

MR. HIGHTOWER: Your Honor, the Department joins the Applicants in their motion for an involuntary nonsuit for the reasons stated by Mr. Mustian. And I just would like to emphasize that the regulatory scheme specifically states that the Department shall act on all permits to prevent or, as far as reasonably possible, considering relevant standards under state and federal law, an increase in pollution of the waters and the air -- waters and air of the state.

Specifically here, Your Honor, the Petitioners had the burden to show, and I believe the -- one of the issues they were talking about was fecal coliform. They would have to show what is the regulatory standard, how much fecal coliform, or I should say manure, would have to somehow be discharged into the waters to somehow increase that, whether or not it would be attenuated given the fact that this is not a direct discharge into waters of the state, but rather that there are buffers. And as Mr. Mustian has stated, the buffers from waters of the state are more than exceeded in all three of the facilities. They are more than, I believe it's 100-foot level from waters of the state, including ditches and I think swales and intermittent and ephemeral steams.

For these reasons, we believe that the Petitioners have failed a establish that the Department's permit decisions were influenced by any of the factors that a Court can overturn in administrative agencies determinations. And we particularly note that they only provided one witness who really had technical expertise. And that was Dr. Hargett. And most of Dr. Hargett's

statements were about stormwater, which he acknowledges is a separate permitting scheme. And he acknowledges that there are regulations and requirements that, if met, would address his concerns. For all these reasons, we believe that the Court should grant the motion for involuntary nonsuit.

MR. GUILD: Your Honor, if I may. We resist the motion for involuntary nonsuit, as you imagine. In short, Your Honor, this is a terrible site for 18 poultry barns. DHEC is simply asking for trouble by allowing this extraordinary concentration of animal facilities on an extraordinarily challenging site with topography that will inevitably lead to the discharge of pollution into a stream that is already identified as impaired for the very contaminant that will be generated on this site and is not presently being produced at that site. So, by definition, as Mr. Hightower suggests, the pertinent authority that we cite at the outset is 200.70 of 61-43E, the provision read by Mr. Hightower about acting in every permit to assure that there will be no increase in the pollution of the waters of the state.

We have a situation here, Your Honor, where an extraordinary concentration of animal production facilities already exists in a watershed that DHEC itself has recognized as impaired for the very pollutant that is generated by these animal production facilities. They have designed a TMDL, as they're obligated to do, that is a tool that is explicitly expected to remedy the pollution of concerns, been on the books since at least 2004 and has not remedied the problem yet. Among the sources of contaminants potentially causing this non-attainment for the legal standard for fecal coliform contamination are land application of animal waste from animal production facilities, cited specifically. Now, we now are facing a circumstance where DHEC, in these three consolidated cases, is proposing to permit an additional 16 barns, all of which exceed the size that would constitute the definition of a large combined concentrated animal feeding operation, a large CAFO. So, they're, by definition, facilities that pose an extraordinary threat of impact to waters of the state. We maintain that both -- the evidence in

this case already demonstrates, through Dr. Hargett's expert witness testimony, that there inevitably will be a discharge of pollutants to Little River from these facilities given the circumstances of their design in these permits. Moreover, the waste from these facilities, which the Department purports to ignore, will be -- if they're permitted will inevitably be discharged from the -- removed from the facilities and allowed to be land applied somewhere. And that somewhere includes the watershed of the Little River that's currently identified as impaired for fecal bacteria with one of the potential sources of that contamination being land application of animal waste. There is no restriction on where that waste can be land applied and that restriction would allow additional waste to be added to this watershed.

THE COURT: The land application is a separate permit, correct?

MR. GUILD: Moreover, it's a separate permit in the sense that there is a permitting process for manure brokers. But there are two factors to consider, Your Honor. I think it's an artificial distinction to say that,

because these operators won't be responsible because they've signed a paper saying they've essentially given responsibility up to a third party, that DHEC nonetheless is relieved of the obligation under its own regulation to assure in each permitting decision that there will not be an increase in water -- the pollution of the waters of the state. So, the fact that it's being handed off to somebody else does not relieve DHEC. Now, it may relieve Mr. Young and Mr. Coggins and Mr. Coggins. That's not our point. Our point is DHEC has an obligation under its own regulations to not engage in magical thinking that somehow this waste is going to evaporate or go, by definition, some place where it won't contribute to water pollution. Because we have water pollution from fecal bacteria in this watershed.

THE COURT: But DHEC has the obligation, but that obligation is fulfilled under the land permitting process; is it not?

MR. GUILD: No, sir. I think that's a factual question this Court has to decide. It's simply not a matter of assuming, because the law says this is a no-discharge facility, that it is a

no-discharge facility. Those are factual questions. Just because the law says a manure broker is taking this waste under this contract and that manure broker has its own regulatory system or its own regulatory obligations to properly land apply waste, that doesn't assure that it will happen.

Now, just consider for a moment the evidence in this record. We have testimony by two witnesses, fact witnesses, the testimony of Charles Blackmon, the testimony of Ross Stewart, both of them in their own personal experience had either poultry generators or manure brokers deliver a pile of manure to their land -- their farm fields. They weren't even part of the land application system because they were not permitted to be that. They simply accepted, not knowing otherwise, that you could receive a pile of manure on your property. In Ross Stewart's case, he, as an experienced NRCS employee, understood that the practice that was expected was that he would pass on, you know, his waste management plan and his soil test and found out that the manure broker didn't care about it, didn't want it, didn't get it, didn't take it.

In the case of Charles Blackmon, it was simply provided, as I understand, by a friend or relative who happened to be a poultry generator himself and he's not in his waste management plan as far as Mr. Blackmon. My point is, Your Honor, we have at least two concrete examples of circumstances where the manure broker system on the face of it in each Petitioners' own experience was simply not complied with. Nut --

THE COURT: Well, actually one of that would not be the -- I guess one of them was not permitted, so that was just -- would be a complete violation of the law. The other one was an example of not properly following the law.

MR. GUILD: Yes, sir. Just two examples. But, I mean, I'm just saying that DHEC has an obligation, if they've decided that there is an impaired watershed and they've come up with a plan to fix it and the plan to fix it, the TMDL, identifies land application of animal waste as a potential source, I'm just being generous, paraphrase -- I'm not saying it is the source, I'm saying a potential source among others. Yes, you have animal -- livestock -- I mean,

wildlife in the woods producing waste that could get into surface water, agreed. And they have other sources that are identified in that TMDL. But one source we know of that is at issue in this case that DHEC has control over that Your Honor has asked to review is the additional generation of very large quantities of animal waste from three facilities, 18 barns, that's going to be land applied for two of those facilities in this watershed. So, I just say, Your Honor, the affirmative obligation on DHEC's part has not been demonstrated to act, to assure that there will be no increase in pollution from even the land application source.

Now, let's turn to the facility itself. The facility itself, we know, as our expert has testified, will generate discharge of stormwater that entrains pollution. Whatever pollution is in that stormwater will be carried down gradient. And right now, as it's designed, there is a -- or it's been testified to as much of an 80-foot drop between the top of the hills and the bottom where Little River is. And after grading, even if the tops of those hills are cut off and there's, as has been testified,

inevitably cut and fill, they'll be half that elevation approximately, according to our witness. So, 40-foot drop to the river. And channels that are existing gullies that, unless altered in some form or fashion, right now, as our witness testified, the obvious pathways to carry whatever stormwater pollution there is down to the waters of the state, which are just downhill from it. It's asking for trouble. So, what we know is that there will be the potential for uncovered storage of manure completely consistent with DHEC regulations up to three days uncovered. Rain doesn't follow DHEC regulations, that gully wash or rainstorm can happen day one, day two, and before day three is over and it would all still be completely within compliance of DHEC regulations. Moreover we have the evidence that manure piles at existing facilities in this very community have stood uncovered for a period of time exceeding the three days. And DHEC may indeed on day four get out there and tell them to cover it up and they cover it up. The fact of the matter remains there is uncovered manure on the pad for these facilities that will be, pursuant to DHEC

regulations, available to be entrained in stormwater should there be a discharge.

So, you're asked, Your Honor -- and last point I'll make is the waste management plan in this facility expressly recognizes that the process of operating a facility involves exhaust fans by design that will exhaust dust, dry manure, dander, and other gases out of the buildings for the health of the chickens, where particulate matter, including manure particles, will drop on to the surface as they're exhausted from the building. So, there's a source of waste, that is manure, pollutants, on the pad from a variety of sources. Outdoor stored manure, completely legal. Exhausted air emissions falling on the ground, by design, completely legal. And third, the happenstance that we should expect routinely in the course of unloading moving in and out of barns vast quantities -- with vast quantities of manure in these facilities. You take the testimony you've heard, a bobcat will periodically go in and in many, many back-and-forth loads, because a bobcat doesn't carry very much in a loader, carry loads of manure out of the barns and put

it either in a pile or dump it into a waiting manure broker truck, optimally. But in the course of doing that, Your Honor, manure is going to fall on the ground. And whether they clean it up some or all or partially, a potential source of, again, stormwater entrainment of a pollutant that goes offsite.

So, we're told, Your Honor, simply that we shouldn't worry about this because, even though in days past DHEC had no requirement for stormwater management plan for these facilities, none, zero, now we have one. And Mr. Hightower let's us understand that DHEC has gotten religion and in some period after 61-43 was adopted they now require the construction phase stormwater general permit coverage before these facilities are constructed. And we hear from Mr. Mustian that there are theoretically all kinds of features that that stormwater plan might include, you know, grass buffer strips, terracing, and rock channels. And all those kind of things are theoretically, potentially, conceivably something one might include in a stormwater management design, none of which is before the Court. There is no design required

for this facility.

THE COURT: Of course that's the point that kind of works against you, none of that is before the Court.

MR. GUILD: Well, Your Honor has to take into account the lack of evidence. I mean, if DHEC is suppose to act to prevent water pollution, it's their responsibility in this permitting process to provide a design that addresses these things and they haven's done it. They've simply told you, don't worry about it, Your Honor, because it'll be taken up by somebody else not before the Court. There is an affirmative responsibility ---

THE COURT: Well, let me understand that. Because you say -- so, are you saying under your theory that you're arguing right now that this permit cannot be issued unless there is a stormwater permit?

MR. MUSTIAN: Precisely.

MR. GUILD: This permit cannot be issued unless there are permit conditions ---

THE COURT: Okay. Unless there is one now?

MR. GUILD: Permit ---

THE COURT: Or Unless one is done later?

MR. GUILD: No, sir. Permit conditions on this permit that will assure that there will not be an increase in water pollution. It is not sufficient to say that maybe some day in the future they will come up with a design that you won't review, that we won't have an opportunity to comment on that maybe will address the problem.

THE COURT: Well, why wouldn't you have an opportunity to comment on it?

MR. GUILD: Well, there's no public review process for a stormwater permit, Your Honor. I mean -- and by the way, don't tell my clients they got to come back before you again to review a stormwater plan that doesn't exist now. There is no opportunity once Your Honor, if you did, approve these permits. This is your chance, our chance, the only chance to determine whether or not these permits are adequately conditioned. And, Your Honor, it is an affirmative obligation by DHEC in these regulations and in the Pollution Control Act to condition this permit, not some future permit, but this permit to adequately meet a regulatory requirements. And they simply have not done that. They have not

acted in this permit, as is required by 61-43, to assure that there won't be an increase in water pollution. If you take these sites ---

THE COURT: Can I stop you?

MR. GUILD: Yes, sir.

THE COURT: If this condition -- if there was a condition on this permit that they fully comply with the stormwater regulations, which set forth that there cannot be any greater discharge than that that is already currently on site, then where would the deficiency be in the runoff for this site?

MR. GUILD: Well, that just doesn't solve the problem, Judge. And here's why. It doesn't solve the problem because we don't have a design that our expert or anyone else can evaluate to say that that design will eliminate an increase in water pollution of Little River. I mean, the designs as I -- you have to understand Mr. Mustian and Mr. Hightower acknowledge in their argument, there's a whole variety of designs. Some better, some worse, some optimal, some sub-optimal, some wholly deficient. They might go out there and just simply say, all we're going to do is put a bunch of hay bales out there.

There's no requirement for even vegetating the slope between the barns -- the pad that's finally constructed and the river. There's just no condition of ---

THE COURT: Of the current permit.

MR. GUILD: Exactly, sir, in the current permit. So, for Your Honor to say, oh, well, I'll just direct them as a permit condition to comply with all the laws, that gets us nowhere more than the law already which says they can't discharge. Magical thinking does not protect the environment. Only a specified design and permit condition then will actually rigorously assure that at that very, very, very challenging site that polluted water with fecal bacteria and nutrients will not enter the Little River. And, as our expert says, there are many ways of doing that, but they're not before this Court and they're certainly not available to our expert or to Your Honor to evaluate their efficacy. Just as an example, Your Honor, if this facility -- one or more of these facilities literally at the top of that hill with nothing but a gully and then the floodplain below it, and Your Honor take notice of the fundamental fact of gravity

that water won't flow uphill, it flows down hill, by definition you've got to design a stormwater management system below the pad. And that means in the floodplain. That means down at the bottom of the hill. I submit to Your Honor that coming up with a design that's actually going to contain the waste from this facility under circumstances where the Little River floodplain floods is a very, very challenging, if not impossible, notion. But it's not before Your Honor. There is no design for doing that. It simply hasn't been addressed.

Now, let me turn to the other primary mandate that DHEC has, and that's 200.70F. Your Honor's well familiar with thee consideration of site specific factors that DHEC is obligated under its own regulations to consider that bear on the threat of water pollution. And I submit that the evidence here, taken most favorably to plaintiff because -- the Petitioners, because that's Your Honor's charge at this point, is to assume that the facts that we've presented taken most favorably, you have to assume that they could not prevail on these claims under any

theory.

THE COURT: Actually I have to disagree with you on that one. Under the involuntary nonsuit consideration, a judge can, at this point in the consideration, if there is no jury, which there isn't, can evaluate the facts and then make the decision based on the judge's evaluation of the facts of this stage of the case.

MR. GUILD: If Your Honor views the law as reflecting that standing, then I still say the evidence that you've heard so far is -- that there will be a discharge of pollution from this site, that there is no design to manage stormwater, that a design might be crafted, but there is no design before Your Honor. And so the standard that you have to consider is has DHEC acted in this case to prevent an increase in water pollution. And they haven't. They haven't. There simply is nothing in these permits to address that.

Turning to 61-43, 200.70F. Again, that's the setback considerations. Your Honor, there is no evidence, there is no evidence that, aside from checking a box, that this site was designed to take into account the proximity to 100-year floodplain. Now, we're right next to the 100-

year floodplain it is 80 foot down a hill as we speak, down steep gullies. That's where the floodplain is, right next to these sites. You can't get any closer to the river because basically you're at the edge of the bluff as it is now. You can't back off the river anymore because you got a 400 foot buffer requirement from the property line along Lisbon Road, so you're stuck. It's a postage stamp site for 18 barns. So, the proximity to the floodplain is what it is, which is very close. That means the floodplain is threatened by anything that runs off this site.

Geography and soil types on the site. You already heard testimony from Mr. Stewart, who was, as you know, not an expert, but who has expertise. And based on his experience with NRCS, Dr. Hargett as well, they characterized the C, D, and F soils indicating high erodability, soils that, because they're steep, very steep, 15 to 40 percent as I heard for an F soil on the site, because they have that characteristics of I think it was the 2 number as the suffix, they're highly eroded already. And this is in the record. This is the soil

survey that's a part of the comprehensive nutrient management plan. These soils couldn't be worse in terms of the likelihood of erosion, the likelihood of stormwater downhill discharge and the -- and the challenge to producing a functional stormwater management plan. You know, much better if you're in a flat area with zero topography to design a stormwater management system, much more challenging under these -- no indication in the permit file that's in evidence that any more than checking the box that the permit reviewer took that factor into account. Item sub six of that section, Your Honor, proximity to other known point source discharges and potential non-point sources, what the checklist in this case indicates, Your Honor, is that when they reach that factor, they simply pull up their GIS data to see how many other livestock or poultry facilities there are in the watershed and they list a number and it's a big number. And then they pull up their GIS to say how many known manure utilization areas. And these are fields, as I understand, that DHEC is informed of because they're in somebodies waste management plan, like Mr. Young. Mr.

Young submits his own plan, has his fields, they count his fields, they go into that number, large number. So, DHEC simply checks the box, notes the fact that there's a whole bunch of other sources of land application in the watershed, non-point source pollution, Your Honor, non-point source pollution. And then they say these are all no-discharge facilities, ipso facto, we have no need to consider any further conditions or setbacks, so they just ignore it. Again, the magical thinking that they're all no-discharge facilities, even though the TMDL on it's face acknowledges that a potential source of that water pollution in the Little River watershed is existing land application from this very heavy concentration of poultry and livestock production facility. So, they ignore it in effect. They wish that consideration away.

Slope of the land is number seven. I've belabored that point. We're on a very steep site and so you -- do they take into account slope of the land? In fact, as the evidence indicates, Mr. Chaplin, who I understood to be the permanent reviewer in at least one of these

cases, the DHEC staff notes about six percent, if I saw the number properly, when in fact there's soils on the site that are indicated in the soils survey as up to 40 percent slope. So, whether they took the slope of the land into account or not, they certainly did not document accurately the very steep slopes that exist on this site. And I submit all they had to do was look at the topo to see that they're very steep slopes. They obviously did not take that factor into account.

Runoff prevention. Well, Your Honor, that sounds to me like that would be the stormwater management plan, the grading plan, an actual design. Is there a design that is submitted as part of the animal waste management plan or the facility application that addresses by design runoff prevention? There is not. And as the witnesses in this case testified, the topo map that simply takes the shape of six or eight barns and imposes that on the topography as it exists -- depicted in the topo map is not, in any way, shape, or form an accurate representation of what the facility will actually be once it's constructed and put into

operation because, by definition, you've got to great that 15 acre plus or minus flat pad by mass grading of the hills and through cutting and filling, altering substantially the landscape and compacting the soils, the native soils and changing their runoff coefficient significantly and adding these barns, et cetera. So, you're -- by definition, you're going to create the circumstance where runoff will be exacerbated in very substantial sense. And this is the transition of an undeveloped site, wooded or otherwise, into an industrialized site with roofs and compacted surface that's been mass graded. That runoff capacity has not been calculated in this application, it's not been even acknowledged. But it's a fact because you simply can't put that rectangular shape down on the landscape without creating a pad. And you simply have to take into account on these facts at this site the need to address runoff prevention in ways that this permit application ignores completely. Just ignores it.

And then of course we have the aspect of downwind receptors. Your Honor has heard this issue before. I don't know whether

Mr. Hightower is actually not going to call his air man, who's here in the courtroom, but he said he wasn't. And we know that they just wish the factor of downwind receptors away. There's magical thinking on that front too. And that is downwind receptors, even though it's a regulatory requirement to consider it, is never considered and wasn't considered in either of these three cases. Why? Because we have interpreted the term to be meaningless. And I submit to Your Honor that if that isn't legal error, I don't know what is, to basically take your own regulation and interpret it to be meaningless, has no application because they didn't do it. And it's specifically in a section for poultry facilities. So, they've defined the term away even though they wrote the term to apply to facilities just such as this.

Your Honor, I believe that these facilities are on an inappropriate site, simply cannot be made to work for the reasons that our witnesses have testified to; that there will be an increase in the discharge of pollution from this site; that that pollution will include sediment inevitably during the construction phase and

otherwise, but it will also include the pollutants that are associated with chicken manure. And that includes fecal bacteria, that includes nutrients, phosphorus, and nitrogen. Those pollutants will harm further the water quality in the streams, in this case the Little River. They will exacerbate the existing impairment of Little River. And that is expressly prohibited by the regulatory requirement to act in this permit to prevent an increase in water pollution.

THE COURT: All right. Thank you.

MR. GUILD: Thank you.

THE COURT: Anything else?

MR. MUSTIAN: Your Honor, just briefly. The Petitioners are taking a position with the Court that any increase of pollution means that the permit has to be denied. If there is any one unit of fecal coliform bacteria that would increase or even have the potential to increase, they take the position that under the regulations that that permit cannot be approved. That's a -- they are misconstruing and they're not representing to this Court what the actual regulations says. What 200 E says -- 200.70E

says the Department shall act on all permits to prevent, so far as reasonably possible considering relevant standards under state and federal laws, an increase in pollutants. So, number one, we didn't believe that they have demonstrated evidence that pollutants -- or an increase of pollution will occur. But even putting that issue aside, they have not said that -- they have not produced any evidence that these facilities, as proposed in the application, will increase pollutants under -- as reasonably -- will not reasonably increase pollutants in consideration of federal and state standards.

THE COURT: I agree with you a lot of what you've said on that. But when I look at their case, I mean, if I was going to evaluate the case, I can agree with their expert witness on much of their case and potentially find against them. But the problem I do have is there is listed in the regulation that DHEC is to consider runoff.

MR. HIGHTOWER: Yes, Your Honor.

THE COURT: And Mr. Guild pointed, your kicking the can down the road. You're saying we're going to consider runoff, but we're going to wait and

consider that under a stormwater permit process, but then we're not going to consider it here.

MR. MUSTIAN: Well, Your Honor, the distinction that I would make -- and I was going to come to that point as well. When you look under F, it says they have to consider runoff. But when you look at the regulation, you have to look at the context of what it says. It says they have to consider runoff prevention in the context of if additional setbacks are necessary. Not whether or not the projects can be permitted or not, but whether or not additional setbacks are necessary. Now, the regs ---

THE COURT: Setbacks for what?

MR. MUSTIAN: Setbacks in order to prevent runoff. Now, the record reflects that they've looked at that ---

THE COURT: That's circular reasoning, isn't it?

MR. MUSTIAN: No. The question is, is -- there are minimum setbacks. So, one of the setbacks is proximity to the floodplain, okay? And so, the question is, is do they have to increase setbacks so as to prevent runoff. Well, first of all, Your Honor, the record reflects that our setbacks exceed -- either meet or exceed the

minimum requirements. But second of all, the Department did look at those issues and they've concluded that additional setbacks were not required. But what they're not required to do is to say, well, under this statute, under 61-43, that they have to take steps to prevent any runoff. The regulations contemplate, and I think the Department takes the position, that the runoff issues would be addressed in the stormwater plan, which is a specific condition of the permit. On the permits it says that we have to apply for a stormwater permit. So, that's what we'll do. But what -- in the context of 200.70F subsection 9 when it talks about runoff prevention, it's saying, well, they have to consider it in whether or not additional setbacks are needed. Not whether or not there's going to be any runoff at all or not whether or not, you know, this is going to increase runoff or is -- in the construction. That's a different issue. The construction is a completely different issue. This is entirely whether or not runoff setbacks need to be increased. So, DHEC's looked at that issue. And that's not what's before the Court.

Everything they've talked about, all of their complaints are stormwater issues. And what they're asking is to require this Court to conflate the two -- or not conflate, but to combine the two things; to require a permittee -- or a permit applicant to come in and say, well, not only have we done all the operation, but also we've done all the stormwater, which makes the bifurcated process that DHEC has, it makes it unworkable and unreasonable.

THE COURT: Well, it challenges your bifurcated process. I mean, basically what they're saying is your bifurcated process should not be bifurcated.

MR. MUSTIAN: True. But DHEC has interpreted it's regulations to say this is a reasonable thing. And under the Kiawah decision, its interpretations are entitled to deference. And so, it has interpreted its regulation to say, under 61-43 this is how we figure out whether or not you can even operate. And then under the stormwater regulations, that's how we figure out how you actually are going to construct it. That's how it's interpreted it. And that's how it's interpreted this runoff issue. And it's

entitled to deference under that opinion.

THE COURT: All right.

MR. HIGHTOWER: Your Honor, and just to emphasize on what Mr. Mustian has stated, regulation 61-43 specifically gives what are the minimum requirements that you must provide the Department in order for it to conduct a review. And that's found in part 200.50B. It tells you you need an application, it tells you you need a management plan, and it tells you what needs to be in that management plan. And it does go into if you have land application, you're going to need information about soils and things like that. But what it does not talk about is that you need construction drawings to show grading, fill, or anything that would be in stormwater. And indeed, Dr. Hargett, when I asked him, in looking at the stormwater permit, it specifically there shows a lot of the issues that he was raising were addressed there, what would be the pre and post-construction velocities, what would be the contours that -- what are you going to change, how is it going to effect runoff, all those factors would be considered in that permit. As Mr. Mustian

stated, runoff here is not contemplating the construction of the facility. It is talking about whether or not we need to increase a setback. And ---

THE COURT: And under -- how do I make that determination?

MR. HIGHTOWER: Well, as Mr. Mustian ---

THE COURT: I think the answer I would give from my perspective is -- because I was thinking about that when Mr. Mustian was giving his argument, is I would make that determination based on what the Department tells me about how they factually treat these cases.

MR. HIGHTOWER: Well, Your Honor ---

THE COURT: And if that was true, then I would deny motion for involuntary nonsuit and hear your case.

MR. HIGHTOWER: Well, Your Honor, I do note that, number one, the Petitioner had the opportunity to call in their case in chief Mr. Chaplin to determine that. I was informed late yesterday that he would not be called. Prior to that, I had gotten a request whether or not the Department would waive the requirement for him to be subpoenaed. And I did waive that

requirement and stated that we'd make him available. The fact that they chose not to avail themselves of calling him as a witness and getting information that they believe should have been in the record is not the Department's fault. It is the Petitioner, it's how they decided to bring their case. But the question is, they have to show a factual basis as to these -- in this case, the setbacks are not adequate. And from what I remember from the plans that were put up, all of them, the regulatory distance -- or I should say the actual distances were more, greater than the minimum distance. So, they had already met those -- the minimum that the regulations contemplate. If you meet the distance, if there are no other factors that can be identified, then that's sufficient. In what was presented shows that they were exceeding those distances in some cases by three or four times the regulatory limit. Now, they still might say that that is inadequate. But then again, that needs to be something that they would have had to put in the record and they failed to do that.

I also noted that Mr. Guild was in a sense

testifying. There was no testimony presented as to what is a downwind receptor. So, yeah. And I note that he did not illicit any testimony or find any document that was explaining what's runoff. So, again, it seems from the arguments of Mr. Guild and even Dr. Hargett, they have a problem with the regulatory scheme that these facilities are permitted under. And that may be a legitimate argument, but that's not an argument for the Court. That's an argument in whether or not the regulations need the be changed somehow. And that's a legislative function, not a judicial function. Here we are to take the regulations as they exist, not how we would like them to be. And we are to apply them and look at that and say, well, based on the application of the facts to regulations, did the Department properly review this application? And I submit we did and nothing that has been stated in the testimony so far changes that fact. There's been speculation. And most of the speculation centered in this case around stormwater, which is clearly not a part of this permit. And as Mr. Mustian has stated and I believe it's in the record because it's part of

the DHEC file, it states that the Applicant is required to get a building permit and a stormwater permit among any other types of permits that they may need. And their own expert stated that, yes, if you follow those requirements, that is good. In fact, if I understood him and even Your Honor had noted, he had problems with the standard -- I think it was the 10-year storm event. He said, well, it should be greater. And you pointed out you can always come up with a rarer event and say, well, maybe you should factor that in. Again, that is arguing not that you're not meeting the regulations, it's arguing that you have a problem with the regulations themselves. And that is not the issue that's before the Court today. So, for all these reasons, we believe that the Court should grant the motion for involuntary nonsuit.

THE COURT: I'm going to take a quick break.

MR. GUILD: Judge. Your Honor. Excuse me, Your Honor.

THE COURT: I normally allow ---

MR. GUILD: I've only been heard once. And I'd just like to draw the Court's attention ---

THE COURT: Normally you don't get to be heard but once when you -- they make the argument, you reply, and then they have a right to close. But ---

MR. GUILD: May I draw your attention to a regulatory provision that responds to ---

THE COURT: Something new, yeah.

MR. GUILD: Yes, sir. I just want the Court to be aware that 200.140 is the provision that I referred to that empowers the Department -- I'm looking at sub B. On a case-by-case basis the Department may impose additional or more stringent requirements for the management, handling, treatment, storage, or utilization of animal manure or other by-products. They have the authority to impose more stringent conditions based on the facts. And then second in C, the following cases shall by evaluated, shall be evaluated, for additional or more stringent requirements. Sub 2, 303(d) Impaired Waterbodies List. Facilities and manure utilization areas located upstream of impaired waterbodies. That's an express requirement of the regulation, a circumstance here where they're obligated to consider more stringent

permit conditions. I just wanted you to know that was the citation.

THE COURT: Thank you.

MR. GUILD: Thank you.

(Off the Record)

THE COURT: I've thought about your argument. It was a general motion for involuntary nonsuit. There are, I'm concerned, much of the permit -- aspects of the permit that hadn't been challenged. So, concerning much of it, I could grant the motion for involuntary nonsuit, especially in light of the fact that I can evaluate evidence. But I just think at this stage of the game I want to hear more about the runoff issue. And I -- when I was debating it, to argue that runoff is limited only to a certain -- or only to whatever you're saying regarding the setbacks, runoff is storm-water runoff. So, I think you used the term they're conflating it, but I'm not sure about the conflation because it appears to me that they may be similar. So, with that regard, I'm denying the motion at this point in time and I will proceed. But I thought seriously about it. Thank you for your time.

MR. MUSTIAN: Thank you, Your Honor.

MR. HIGHTOWER: Thank you, Your Honor.

MR. MUSTIAN: Your Honor, we've talked. Mr. Chris Mosley is our witness, so we're going to go first and put him up. I don't know if Your Honor had an order, but with that we'd call Mr. Chris Mosley to the stand.

CHRISTOPHER MOSLEY, having been duly sworn, testifies as follows:

MR. MOSLEY - DIRECT EXAMINATION BY MR. MUSTIAN:

Q: Mr. Mosley, could you state your -- well, I guess you just did. Could you state your name for the record?

A: Christopher Thomas Mosley.

Q: Okay. And, Mr. Mosley, where are you presently employed?

A: I'm employed with Agri-Waste Technology.

Q: And where is that located?

A: In Apex, North Carolina.

Q: How long have you been employed by Agri-Waste Technology?

A: Since September of 2000.

Q: Okay. Is it known as AWT sometimes?

A: Yes.

Q: What's your current position with AWT?

A: I'm the CEO.
Q: And how long have you been the CEO of AWT?
A: That was a recent promotion this year.
Q: Okay. Do you hold any other positions with AWT?
A: I do. I'm also a senior project manager.
Q: How long have you been in that position?
A: Around ten years.
Q: Okay. Mr. Mosley, where did you attend college?
A: I did my undergraduate degree at NC State University, bachelor of science and agricultural engineering.
Q: And when did you graduate? I'm sorry.
A: 1996.
Q: Okay. And did you go to graduate school after that?
A: I did. I received an MS degree from Purdue University.
Q: Okay. And what was your master's in?
A: Agricultural engineering.
Q: Mr. Mosley, do you hold any professional certifications?
A: I do. I'm a professional engineer in North Carolina, Ohio, Texas, Georgia, Alabama, and South Carolina. I'm also a technical service provider certified by the USDA-NRCS to write

comprehensive nutrient management plans.

Q: And looking at your job responsibilities, not as CEO, but as senior project manager, can you tell me what some of those responsibilities are?

A: I'm responsible for several items in the company. One of those is I manage two large municipal land application systems down in Texas. I also review carbon verification reports that my staff writes. And I'm also involved with managing the agricultural projects, especially in the realm of nutrient management planning and site planning.

Q: Okay. So, in that context with animal projects, tell me a little bit more about what you do in that respect.

A: So, my position has evolved over the years. Initially I was involved from start to finish in the process. And as time has moved on, we're transitioning to other staff members taking on those responsibilities and my responsibilities have moved more towards managerial responsibilities, making sure the project moves forward like it needs to, making sure that we're following the regulatory requirements as we complete these plans.

Q: Okay. Before you were senior project manager, did you hold other positions with AWT?
A: I did. I started as an assistant project engineer and then progressed to associate and then senior. And then also received -- I was promoted to a VP position after I was -- I became a senior project engineer.
Q: What kinds of things -- and just focusing on agricultural projects now. When you were an assistant project manager -- and I'm sorry, the second one was ---
A: Associate.
Q: Associate. What types of things did you do with respect to agricultural projects while you were in those positions?
A: Those positions the responsibilities were similar. As I moved up, I just had more responsibilities, more oversight responsibilities, more client contact responsibilities. You know, when you first start, you're a more behind-the-scenes person who's helping support the senior project engineers on the projects. And as my title changed, I became more and more involved with other aspects of the project that were more

client relations and oversight.
Q: Okay. About how many poultry applications -- well, I guess do you work specifically -- have you worked specifically on poultry applications?
A: We have. We work on poultry, we work on broilers, turkeys. We work on swine facilities, dairy facilities, any kind of an animal agricultural facility.
Q: Specific to poultry, what kinds of projects have you worked on with respect to poultry farming?
A: So, we've worked on anything from an application for a stacking shed for poultry -- existing poultry operation to a brand new facility permitting a poultry operation and anything in between. So, if a producer wants to add a composter, we can help them with the permit application or providing the supporting documentation for that. We're also involved with the expansion permit process. So, if an existing poultry producer has a need to increase his production and a contract with an integrator, then we'll help them with the permit modification and expansion permit to do that.
Q: Okay. So, in the time that you've worked with AWT, about how many poultry applications would

you say you've worked on?
A: I'm not sure the number, but it's dozens.
Q: Okay. So, Mr. Mosley, can you kind of tell me -- and let's focus in now on new facilities, okay?
A: Okay.
Q: So, new poultry facilities, kind of tell me from start to finish what's the process that you and your team go through from the time you get the call from the producer saying, hey, we want to build a new facility, to through the end of your involvement in the project.
A: So, the first step obviously, the producer calls me and we have initial discussions scoping the project. So, that typically involves the producer providing us with the location map to show where they are considering the operation. We also discuss who the integrator will be to see if there are any integrator specific issues that we need to address. We talk about the size of the site, the size of the barns, how they -- you know, what kind of strategies they're going to have for manure management, mortally management and those kind of things. We get a general idea up front what the goals of the

producer are and then we start looking at details. And so, once we've looked at the property remotely through maps, then we'll go on site and see what's on the ground. And we'll take those observations back to the office and we will develop a comprehensive nutrient management plan. And that process involves multiple conversations with the producer, possibly the integrator as well, to make sure that we understand how they intend to operate the facility and make sure that we meet all the regulatory requirements that are related to that particular facility. But it's a process -- a back-and-forth process between AWT and the producer to arrive at the application to DHEC and the comprehensive nutrient management plan, which is referred to in the regulation as the animal facility management plan. Once we develop that plan, we submit that plan to the producer to review to make sure they're okay with everything that we've set forth in the application and in the plan and then we wait for DHEC to make their comments back to us. And typically there's some back-and-forth between DHEC and AWT to address any issues that DHEC has

with the application as we provided it. And we continue to work back and forth until a permit is issued for the site.

Q: You mentioned you kind of do some preliminary viewing, remote viewing I think you called it, basically using satellite imagery; is that right?

A: Yes. We use a variety of tools, including satellite imagery, just to get a feel for what the site is like.

Q: And when you say to get a feel for what the site is like, why is that of concern to you?

A: Just looking at the surrounding area, what the land uses are around the site, looking at where the property lines are to see if there's room for the site to be built, looking at the surface water on the site to see if setbacks can be maintained, to see if there's any wetlands on the site, see if we need to do further investigation of those to determine their location, and looking at basically everything we have at our disposal, such as topographic maps, soil maps, floodplain maps and those of that nature to see what's around the site, what's on the site, what are the neighbor land uses so we

can better help the producer plan the facility.
Q: One of the things I think you said you look at is topography. Is that right?
A: Yes.
Q: When you -- and I'm still on the remote-viewing side of things and when you're looking at imagery. What is it that you're looking at the topography for?
A: We're looking to see general the lay of the land. We're looking to see what blue line stream indications are on the topographic map just to see -- in some ways to see what kind of further evaluation we need to do on the site.
Q: Okay. What's the reason for looking at those issues?
A: So, that we can make sure that there's a viable project to move forward. We don't want to -- we don't want Mr. Coggins and whoever else we're working with to waste their time or money on a site that won't work. So, we want to make sure that there's a reasonable site that we feel like could be permitted.
Q: You said after you do your remote viewing, look at the maps, then did I hear you correctly that you actually send people out to go look at the

site?
A: We do.
Q: Okay. And what's the reason for that?
A: To ground truth what we're seeing on the remote maps. Most remote maps tell part of the story, but they don't tell the whole story. So, we like to see -- we like to have eyes on the site and see what's actually on the ground.
Q: And when you see actually what's on the ground, what do y'all do with respect to, and I think you called ground truth, what is it that you're actually doing on the site when you go and visit it?
A: So, we're going to look at any of the features that require setbacks in the permitting process. That would be any surface-water features, to make sure we know where those are. So, we're going out, walking the site and taking points, GPS points, so that we'll have a better idea about where those features are as we're trying to figure out where the barns, the poultry barns could go on the site.
Q: And you say a better idea. I mean, how accurate are we talking with respect to those GPS points?
A: I mean, it's not a survey grade accuracy, but

it's a GPS accuracy. And that depends on a lot of factors. But roughly 10 to 15 feet, I would say.

Q: Tell me about -- so, what was your role with respect to the applications filed by David Coggins, Heath Coggins, and Jim Young?

A: I led the efforts that AWT set forth in this project. I made sure we had people out on the site. I communicated with the Coggins and Mr. Young throughout the process, made sure that our staff were in communication with them and getting information that they needed to get from them to move forward with the application. And I did a final review of all three plans to make sure that we were in compliance with the regulation.

Q: Okay. And when you and your team were drafting the application, what was your main consideration when putting that together?

A: Well, our goal is -- when we submit an application to DHEC, our goal is to have the application approved. So, that was our main goal, was to make sure that, in the planning of the facility, that we were going to meet all the regulations, the DHEC regulations set forth in

61-43.

Q: I'm going to show you -- this is a document --

(Off the Record)

Q: So, I want to show you -- this is DCB 204 is the -- and you've got a copy of that?

A: I do.

Q: Can you tell me what that is?

A: This is a table we include in all of our comprehensive nutrient management plans. And essentially what it does is it cross references the requirements and the regulation with how we address those in requirements in our document, in our comprehensive nutrient management plan. So, you'll see the first column has requirements, the DHEC regulation. And the second column has the location of those particular pieces in our documentation. It helps us to organize our planning process and it also helps DHEC review our application.

MR. MUSTIAN: So, Your Honor, I'd ask that this document be moved into the record as the next Respondent-Permittees' Exhibit as Respondent Permittees' Exhibit 23.

THE COURT: Any objections, Mr. Hightower?

MR. HIGHTOWER: No objection.

THE COURT: It's admitted.

(Respondent-Permittees' Exhibit Number 23 was marked admitted into the record.)

Q: So, Mr. Mosley, I'm going to try to kind of go through this as quickly as I can, but want to do is kind of walk through the three applications and all the different issues if I can. I believe you said earlier that this section 12 reflects the requirements of the regulations. Is that right?

A: That's right.

Q: And I kind of want to show you -- we'll kind of look side-by-side, for instance, if we look at these two documents. So, on the right-hand side we've got DHEC regulations 200.50. And then on the left-hand side we've got your document that's in section 12. Do you see that?

A: Yes.

Q: So, if I look at Exhibit 23, I'm looking -- first up it says Preliminary Site Approval. Do you see that?

A: I do.

Q: And that appears to correspond with 200.50(A) as far as Preliminary Site Evaluations?

A: Correct.

MR. GUILD: You're, I have an introductory matter. Mr. Mosley has not been identified as an expert witness. And I just would like the Court to caution counsel that opinion evidence is not permissible from this witness. And it's certainly not permissible for him to interpret regulations or opine as to whether a particular submission complies with the regulatory requirements. I have no objection to counsel walking us through the comprehensive nutrient management plan. That's helpful. It informs me and informs the Court. But I think that what's good for the goose is good for the gander. We identified one expert. They've identified no experts. And therefore I ask the Court instruct counsel that the witnesses should be -- the question should be ---

THE COURT: I don't think it's my job to instruct. I'll rule on the evidence when a motion is made or an objection is made, I'll conduct my part. But if he starts offering opinion evidence, I'll rule on that.

MR. GUILD: Yes, sir. And I'm just saying, I now see that statutory or regulatory provisions have been posted and I object to the witness

testifying as to compliance with regulatory requirements. Your Honor has ruled with regard to our non-expert witnesses, that they were not competent to testify as to compliance with regulatory requirements or interpreting regulatory requirement. And I submit that that principle needs to apply to this witness as well. I'm just cautioning because I see that that's the line we appear to be going down here.

MR. MUSTIAN: Your Honor, that's not the line I'm appearing to go down, despite the lengthy argument of Mr. Guild. Maybe I can cut some of this off if we can all agree to this. What's in the application in section 12 is basically a table of contents. And it corresponds to what's in the regulations. That's all I'm asking him at this stage is ---

THE COURT: I understand.

MR. GUILD: And we have no objection to that if that's the explanation as a table of contents. No problem.

THE COURT: That's why I would prefer to rule when an objection is made because we get -- we avoid things like this. Just proceed.

MR. MUSTIAN: And maybe, Your Honor, if they would

stipulate that, you know, what's in the table of contents, you know, it will speak for itself as to whether or not it corresponds to what's in the regulation. What my plan is is just to say, okay, you know, section 12 one says Preliminary Site Approval and then we go over to the corresponding section and we say, this is Preliminary Site -- just the idea being to demonstrate that the application is -- contains information that he would not opine on, but that we would assert is in the record that we have applied the regulation. Does that make sense?

THE COURT: Mr. Guild, you want to stipulate to that or not?

MR. GUILD: Your Honor, we stipulate that the contents identify sections of the waste management plan that relate to specific regulatory requirements. We don't stipulate that they represent compliance with those requirements. And that's an argument that counsel need to make at some point.

MR. MUSTIAN: And that's not my intention, Your Honor.

THE COURT: Go ahead.

MR. MUSTIAN: Okay.

Q: Mr. Mosley, is it your understanding that the table of contents reflects what is set forth in the regulations?

A: Yes.

Q: Okay. So, I just want to just kind of go through step by step. And like I said, I want to try to do this as quickly as I can. But we're going to start with Mr. Coggins' permit application. So, I see first in the table of contents it states that there's a preliminary site approval on page five. Do you see that?

A: Yes.

Q: Okay. And ---

MR. GUILD: Your Honor, excuse me. I hate to object. But I just withdraw my stipulation. If he's going to go through this anyway, then there's no need for a stipulation. I withdraw the stipulation. I thought the whole point was we were going to avoid having to walk through it page by page by me so stipulating. But if that's not the counsel's desire, then I withdraw my stipulation.

MR. MUSTIAN: The stipulation was that the table of contents reflects what the regulations require.

MR. GUILD: Because you were not going to go through

line by line. But if you insist on going line by line, I withdraw the stipulation. I'll object to each question as it's posed if it's objectionable.

MR. MUSTIAN: I think we're confused at this point, but okay.

THE COURT: Your stipulation worded and his request was somewhat different. If y'all want to get on the same page, we'll move on. If not, we're going to move on. So, either way.

MR. GUILD: I withdraw the stipulation. Counsel should just go forward, Your Honor.

Q: All right. So, let's go back. So, I'm going to put these back side by side. So, section 12 is table of contents. Do you see that?

A: Yes.

Q: Okay. And on the to table of contents there's a section for Preliminary Site Approval. Do you see that?

A: Yes.

Q: And does that correspond with 200.50(A), that requires a Preliminary Site Evaluation?

MR. GUILD: Objection. Leading. You can't ask a question that suggests an answer. He can ask the witness what this is, but he can't lead him

to answer affirmatively or negatively. It's leading.

THE COURT: Just to let you know, I know what a leading questions is, so you can just object to leading.

MR. GUILD: Thank you, Your Honor.

THE COURT: Sustained.

Q: Mr. Mosley, where does this portion of the table of contents come from?

A: From 61-43 200.50(A).

Q: I'm sorry. 200.50(A), is that what you said?

A: (A).

MR. GUILD: Your Honor, I object to the witness being led by a document that's being placed in front of him that obviously counsel's pointing to. That's leading just as much as if he read the provision in his question. He needs to ask -- with all due respect, Your Honor, he needs to ask a question that simply doesn't suggest an answer. Having the answer before him in front of him on the screen of the regulation itself is leading as much as it is if he read the thing for him.

THE COURT: Any response?

MR. MUSTIAN: Your Honor, I'm just trying to move

through this as quickly as possible, but if -- I mean, we can slow down as much as we need to.

THE COURT: Is any of this in dispute? I mean, Mr. Guild?

MR. GUILD: Your Honor, I offered a stipulation, but counsel insists on going through this anyway. If he wants to simply stipulate that the table of contents reflects their effort to address the regulatory requirements, the respective regulatory requirements reflected in the table of contents, I stipulate to that. But then do we need to go through this? And if we do need to go through this, then it's subject to questions and potential objections. That's the only point.

MR. MUSTIAN: Your Honor, I guess I'm confused. I mean, the stipulation that I was looking for was, does the table of contents reflect what is set forth in the regulation. That is the limited purpose for that stipulation. My then point was to walk through the applications, to say, okay, here's what the table of contents say, here's where the corresponding document is that is referenced in that section, which is a different issue. And I don't think it's as

complicated as Mr. Guild is making it.

THE COURT: Anything else, Mr. Guild?

MR. GUILD: Nothing more from me, Your Honor. He can ask a question. I just think that it's not appropriate to have the regulation sitting in front of him suggesting an answer.

THE COURT: What's your response on that?

MR. MUSTIAN: Your Honor, all I'm asking is, you know, is this document reflective of what is required in 200.50. That's all I'm asking.

THE COURT: You can ask that and we can move on.

Q: Mr. Mosley, is --

MR. MUSTIAN: Then I know I'm going to get a leading objection on the question, but I'll ask the question.

Q: Mr. Mosley, what -- where did the information that is in section 12 on the left-hand side, where did that information come from?

A: It came from the regulation in section 200.50.

Q: Okay. And are there other sections in -- strike that. Is it only 200.50? Is that the only section that is reflected in the table of contents on the left-hand side?

A: Yes.

Q: Okay. Are there -- to the extent that there are

other requirements of section 200, do you know whether or not those would be reflected in the table of contents?

A: There are some other parts of the regulation that are applicable, but they're not specifically stated in this section 12 table.

MR. MUSTIAN: Your Honor, I'll move on.

Q: All right. Mr. Mosley, let's start with -- Mr. Mosley, so, the first one is Preliminary Site Approval. Do you see that?

A: Yes.

Q: Okay. I'm going to show you what is identified as DHEC 940. Can you tell me what this document is?

A: That's the Preliminary Site Approval for Mr. David Coggins' site.

Q: Was this document included as part of the application?

A: It was.

Q: Show you the next section that says, a completed application form. Do you see that?

A: Yes.

Q: Okay. And I want to show you -- this has been identified as DHEC 922. Do you see that?

A: I do.

Q: Okay. And I want to put these two documents side by side. And could you tell me what information is reflected on document 922, the documents on the right-hand side?

A: This is the application for a new facility, Mr. Coggins' facility.

Q: Okay. Do you see on the left-hand side where it says Animal Facility Management Plan? Do you see that?

A: Yes.

Q: And there's A, B, C, D, and E. Do you see that?

A: Yes.

Q: Okay. Could you tell me in relation to those identified items, what information is contained on the document on the right-hand side?

A: So, the application includes the facility name, address, telephone number, county in section one and in section two. The -- as well as -- that's A, C, and D are all reflected in this page of the application.

Q: Okay. And I see E it says facility capacity number and type of animals. Is there anything on the document on the right that reflects that information?

A: Yes. Section three of the document reflects the

type, which is broilers, the number 162,000.
Q: My first opportunity to use this little thing, so. And how is that number derived?
A: The population is based on what the integrator will be supplying the site once it comes into operation.
Q: And, Mr. Mosley, the section above that where it says average animal weight, do you see that?
A: Yes.
Q: Can you explain that to me?
A: That is a representation of the weight of the bird when it comes on the site and when it leaves the site. And those numbers are averaged to arrive at an average live animal weight per bird.
Q: Okay. And where does that information come from? Do you know?
A: The target weight, a grow-out weight is based on an integrator -- based on integrator input.
Q: Okay. And I see underneath that it says normal production live weight and pounds. How does that number get calculated?
A: You take the average weight of one bird and multiply it by the number of birds on the site. So, 4.55 times 162,000.

Q: And how about the total manure number, how does that get calculated?
A: The total manure number is based on the South Carolina supplement to the Agricultural Waste Management Field Handbook. And in that document it says that there's 6.1 tons of manure produced per thousand bird spaces on a facility.
Q: I see that there's a not-applicable next to manure treatment system and additional scrape solids or compost. Can you explain that to me?
A: In the particular situation there's no additional treatment plan and there's no additional scrape solids or compost plan for the facility. It's only the manure that's produced by the birds themselves and the litter base.
Q: Mr. Mosley, I'm going to show you the next page of the DHEC record, which is 923, DHEC 923. Do you see that there's an X on there?
A: Yes.
Q: Okay. Do you know why that X would be there or do you have an occasion to understand that?
A: It looks like the difference in this one and the one you just put on the screen is, if you look in section three under Manure Treatment Systems, there the word stacking shed. At one point,

when we initially submitted these applications, there were a planned stacking shed -- stacking sheds for the site. Those applications were withdrawn, so this document was updated.

Q: Why were those applications withdrawn?

A: The producer was interested in putting stacking sheds on the site, also was interested in working with NRCS so design those symptoms. And it's NRCS's policy not to provide plans and specifications for storage facilities until after the facility's in operation.

Q: And -- go ahead.

A: So, in order for DHEC to permit a stacking shed, they would need to review the plants and specifications for that stacking shed, so. Those are not available, so the stacking shed application was withdrawn.

Q: Did you adjust or amend the application to reflect that?

A: We did. That was the one you just put on the screen prior to this one.

Q: Did you make other amendments or adjustments to the application throughout the process, generally?

A: Generally, yes.

Q: Okay. When you make an adjustment to part of an application, how do you reflect that to DHEC? How do you convey that there's been a change or an adjustment to DHEC?

A: We respond to their comments by providing them for with the revised pages or the application or the Animal Facility Management Plan.

Q: All right. Let's go back to your title page. And I see there's -- I believe we talked about number three and number four. Can you tell me -- number five and number six are identified as NA. Can you tell me why that is?

A: Yes, number five relates to liquid systems stored in lagoons or storage ponds. And there's not -- that is not present in the plans of the site. Number six talks about other animal byproducts, treatment, talks about treatment and there's no additional treatment plan for this site.

Q: And what about section F? Has an NA as well.

A: Section F has to do with concentration of constituents and liquid manure. And this is a dry manure.

Q: So, we'll go to the next page. And I'll refer you down to subsection G. Can you tell me what

that section is?
A: G is a characterization of the nutrient content of the manure produced -- that will be produced on the site.
Q: Okay. And if I could refer you to DHEC 1017. Can you tell me what this document is?
A: This is the characterization of nitrogen, phosphorous, and potassium. That is for the poultry manure that'll be produced on the site once it's in operation. These are book-value estimates because obviously the operation is not in existence right now. And they come from the Agricultural Waste Management Field Handbook.
Q: Okay. I want to go back to the next page if I can on the table of contents. And on the top is says Crop Management Plan. And I see the next several of sections have not applicable. Can you explain to me why that is?
A: In this instance there was no crop management plan required because the strategy used to utilize the manure is through a broker contract. So, the producer entered into a contracts with a licensed manure broker to apply the litter.
Q: Okay. And if we go down to section four where it talks about Facility and Manure Utilization

Area, do you see that section below it?
A: Yes.
Q: And can you tell me what that section is referring to, what it's requesting?
A: Those are the maps that are required to be submitted for the facility in this case.
Q: And can -- before we got to that, can you tell me just generally A, B, C, D, E, F, G, H, and I, what's reflected there?
A: Okay. A topographic map is required. An adjacent land use map within a quarter of a mile of the property line is required. The water supply wells on the property within 200 feet of the property are required. And adjacent surface waterbodies are required to be identified. Any animal manure utilization areas, which are not applicable in this case. Right of ways, which will be roads in this case. Soil maps. Indication of the property boundary of the site. And the 100-year floodplain map.
Q: Mr. Mosley, if I could direct you to DHEC 593. Is this a document that you've seen before?
A: Yes. That's the adjacent land use map. Shows the area a quarter mile from the site.
Q: And what's the import of a quarter mile of the

site?
A: That's the regulatory requirement.
Q: Okay. Show you this map. Have you seen this map before?
A: Yes. This is a soil map for the headquarters area.
Q: And what's the import of this map?
A: It shows the soil types as they exist on the property where the facility will be constructed.
Q: And what's this map?
A: This is a topographic map of the facility, of the area where the facility will be located.
Q: Okay. I'll show you this next page is 959. Do you recognize that map?
A: Yes. That's a previous version of the topographic map.
Q: When you say a previous version, what do you mean? Why is there a previous version of the map?
A: The site -- the location of the barns had -- was moved over the course of the review by DHEC.
Q: Do you know where it was moved?
A: It was moved back away from Lisbon Road.
Q: Okay. Under this map, do you know what the setback of the -- as sited in this map, do you

know what the setback is from the property line on Lisbon Road?

A: In this case there's a 400-foot setback from the poultry barn to the property line.

Q: So, does this site, does it comply -- is there 400 feet between the road and the corner of this site?

MR. GUILD: Objection.

MR. MUSTIAN: I didn't say comply, I said is there 400 feet between Lisbon Road and the corner of the barn.

MR. GUILD: Lack of foundation. How does this witness know that, Your Honor? Did he do a measurement? Did he observe it with his eyes? How does he know?

THE COURT: Lay the foundation.

MR. MUSTIAN: Your Honor, on exam I told him -- we asked about what they did as part of doing a site evaluation. They said they go out and put boots on the ground, they do GPS siting.

THE COURT: Well, lay the foundation.

MR. GUILD: What they did, not what he did. What does he know of his own personal knowledge.

THE COURT: Sir, I've sustained the objection.

MR. GUILD: Thank you.

Q: Have you been on the site?
A: I have.
Q: Okay. What have you seen on the site?
A: I've seen the vegetation on the site, I've seen the cleared areas on the site, I've seen the river adjacent to the site.
Q: Did staff under your direction go out to the site?
A: They did.
Q: And did staff under your direct take measurements of the site?
A: They did.
Q: What about -- what types of measurements did they take?
A: They were locating the ---
MR. GUILD: Objection, Your Honor. Lack of foundation. How does he know what anyone else did if he was not there to see it and do it himself?
THE COURT: Is it hearsay?
MR. GUILD: It's lack of foundation. And if he's relating what somebody else told him, then it's hearsay. So, it's either hearsay or it's lack of foundation. If he knows himself because he did it, then we should establish that.

Q: Did you draw these maps?
A: No.
Q: Who drew them?
A: Julie Davidson.
Q: Did she draw them at your direction?
A: Yes.
Q: Do you know how she drew them?
A: Yes.
Q: How did she draw them?
A: She used a ArcGIS to show the boundaries of the poultry barns to show the load-out areas, the property boundaries.
Q: And what information is loaded into that software with respect to these facilities?
A: That would be the underlying data, the USGS topographic map, the Laurens County GIS property boundaries.
Q: With respect to the location of the barns and the different features on the property, where does that information come from?
A: Repeat the question.
Q: With respect to the GIS map, the features, the different information that's reflected on that map, not topographic, but the GIS points, where does that information come from?

A: Those are physically drawn in by Julie.
Q: Did you have occasion to review those?
A: Yes.
Q: Did you -- based on your review, were those maps accurate?
MR. GUILD: Objection. Witness -- no foundation established what the witness knows about how the maps were drawn.
THE COURT: I overrule that objection. He said based on your review, so.
MR. GUILD: Well, he needs to lay a foundation. What review did he do?
THE COURT: That's subject to cross examination.
MR. GUILD: Your Honor ---
THE COURT: I overrule the objection.
Q: Based on your review, were these maps accurate?
A: Yes.
Q: I'll show you the next map, DHEC 960. Can you tell me what this is?
A: This is the flood map in the vicinity of the David Coggins' property, 100-year flood map.
Q: I'm sorry, 100-year?
A: 100-year, yes.
Q: All right. Go back. We mentioned soil types. And I think we talked about the maps. Is there

-- I'm going to show you this document, which is DHEC 962. Can you tell me -- excuse me. Can you tell me what that document is?

A: This is information from Laurens County Soil Survey that was obtained using the Web Soil Survey website.

Q: And are you familiar with general practices in the field of putting together agricultural practices -- or agricultural applications?

A: Yes.

Q: And can you tell me what is the standard for using -- or for determining soil information when using agricultural -- putting together agricultural applications?

A: The soil survey for the particular county that the site is located in would be the reference that is used. And those are available for every county in the United States.

Q: Where are they available from?

A: They're available from the NRCS office or from the Web Soil Survey online.

Q: I want to go back quickly, if I can. Move on. I'll come back to that. Moving on to the next page, I subsection V and I see some not applicables there. Can you explain that to me?

A: This is has to do with manure utilization areas, which are land application areas. And that's not applicable to this permit application.
Q: Okay. So, if we go down to under section three, it says Ground Water Monitoring Wells. Do you see that? There's not applicable?
A: Yes.
Q: Can you explain to me why that is?
A: In this -- for the permit there was not a requirement to install groundwater monitoring wells.
Q: Next section is an odor abatement plan. Do you see that?
A: Yes.
Q: And let me refer you to what starts on page DHEC 1007. Can you tell me what this section of the application is?
A: This section in particular includes the Amick Farms specific Vector and Odor Abatement Plan.
Q: And I'll refer you to the next page 1008. Could you tell me what this is?
A: This is the Odor Abatement Plan portion of that Amick Farms' plan.
Q: Okay. And why is it from Amick Farms?
A: Because they're the integrator that would be

supplying birds to the farm.
Q: Okay. And next part I'm going to refer you to is section five. You see where it says Vector Abatement Plan?
A: Yes.
Q: Okay. And refer you to DHEC 1009. Can you tell me what this is document is?
A: This is a continuation of the Amick Farms Vector and Odor Abatement Plans. It's the Vector Abatement section.
Q: Okay. And I see that there is another section starting with DHEC 1011. Can you tell me what this is?
A: These are NRCS guidelines for vector control and abatement. They enumerate a number of actions to be taken in a result of particular vectors.
Q: And so, you mentioned the integrator odor and vector abatements. And so, these odor and vectors come from where?
A: This is providing by NRCS.
Q: Okay. Next section under six, do you see where it says Dead Animal Disposal Plan?
A: Yes.
Q: Refer you to DHEC 999. Do you see that?
A: Yes.

Q: And can you tell me what this document is?
A: This is the plan for normal mortality management.
Q: And can you tell me what the first plan is for normal animal mortality management?
A: For this site burial is the mortality management practice that's going to be utilized.
Q: I also see underneath that it says Composting. Do you see that?
A: Yes.
Q: Is that still applicable to your understanding?
A: Not at that point.
Q: Why is that?
A: That's a planned practice in the future that will be permitted in the future. But as of right now that composting permit application has been withdrawn.
Q: Show you DHEC 1013. Can you tell me what this document is?
A: This is the mortal management plan in case of catastrophic mortality.
Q: Next section under 12 of the application it says Notice of Intent to Build. Do you see that?
A: Yes.
Q: Okay. And show you DHEC 1022. Do you see that?

A: Yes.
Q: Can you tell me what this document is?
A: Those are the Notice of Intent forms that were provided to the neighboring landowners.
Q: Okay. And if I can -- I'll tell you what I'm going to show you. I'm going to show you these two side by side. Do you see that one has an X on it and one does not?
A: Yes.
Q: Can you tell me what your understanding of as to why that is?
A: There was some discussion about how to handle the property because it is one continuous property right now. The intention is to subdivide it in three properties. So, there was discussions between DHEC and us as to how to address that in the application. That's why there's a different version.
Q: Okay. I believe the last section is Emergency Plan. Do you see that in ten?
A: Yes.
Q: Okay. And I'll refer you to what has been marked as DHEC 1003. Do you see that?
A: Yes.
Q: Can you tell me what this document is?

A: This is the emergency action plan that will be implemented in case of emergency on the site when it's in operation.
Q: And I think the final thing on this application is, do you see 11, Joint Property Owner Written Agreement, do you see that?
A: Yes.
Q: And I'll show you DHEC 1033. Do you see that document?
A: Yes.
Q: Can you tell me what that document is?
A: This is an agreement. Heath Coggins has given David Coggins permission to billed poultry barns within 400 feet of the planned property boundary between Heath Coggins' and David Coggins' facility.
Q: And what was the reason that that was required, if you know?
A: Because the property is planned to be subdivided. And when it becomes subdivided, there would be an encroachment on that 400-foot property line setback between Mr. Heath Coggins' property and Mr. David Coggins' property.
Q: I want to go back real quick to -- this is DHEC 947, which is a map of the property. Do you see

that?
A: Yes.
Q: And recall earlier we talked about steps you take when you first start working on an application. Do you recall that?
A: Yes.
Q: And do you recall telling me that you do remote viewing and then send people out to look on the ground, things like that?
A: Yes.
Q: Okay. Tell me what about the site concerns you from a -- whether or not something could be built on it.
A: Well, we just want to make sure that it meets all the setback requirements. And that's why we went out on the site, to make sure that we knew where those surface waters were and so that we could put the barns in place that met those setback.
Q: Did you have any discussions with Mr. Coggins about those sites?
A: Yes. Mr. Coggins spoke with us on numerous occasions. And the barns location -- the exact location of the barns moved around multiple times before we arrived at this site that shown

on this map.
Q: Did you express any concerns to Mr. Coggins about the suitability of the site for building?
A: We discussed in general the setback requirements and the topography of the site, but I didn't have concerns about the ability for the site to be permitted.
Q: And have you had occasion to work on stormwater plans before?
A: I have.
Q: How often would you say -- how familiar are you with putting together those plans?
A: We've put together a number of those plans.
Q: Are you familiar with topographical issues?
A: Yes.
Q: Are you familiar with things like ditches and swales?
A: Yes.
Q: Okay. Based on what you've seen and based on your experience, did you convey anything to Mr. Coggins about concerns of the property? Start with the topography and stormwater.
A: Nothing that couldn't be addressed in the stormwater plan.
Q: And, Mr. Mosley, I'll show you DHEC 924. Do you

see that document?
A: Yes.
Q: And what is that document?
A: This is the second page of the permit application document.
Q: And if I could direction your attention to the numbers where it says Animal Growing Area and it says actual, can you tell me what those numbers are?
A: Those are the distances measured between the animal ---
MR. GUILD: Objection. The witness hasn't established any foundation for him being able to testify as to the distances on the site.
THE COURT: I'll sustain that.
Q: Can you tell me what that document reflects, Mr. Mosley?
A: The document reflects the distances from the poultry barn to the features listed on the ---
MR. GUILD: Objection. Move to strike. He can't testify without having personal knowledge and laid a foundation that he knows what those distances are.
THE COURT: I overrule that. He just published the -- he can publish an exhibit ---

MR. GUILD: But he can't establish the truth of the matter. He can simply read it from the document.

THE COURT: He just published what the exhibit said.

MR. GUILD: Yes, sir. But ---

THE COURT: The document reflects what? He can't -- he's publishing the exhibit.

MR. GUILD: He's publishing the document, but he's not testifying to the truth of the matters asserted because he doesn't know, Your Honor. That's my objection. There's no foundation been laid. I represent I understand the testimony, he didn't say it directly, that some other employee went out and did some measurements on the site. That employee is not in the courtroom. If you want to establish the distances and setbacks, this witness can't do it. He can read from a piece of paper. That doesn't make it a fact. And we object to him testifying. It's hearsay.

MR. MUSTIAN: Your Honor, he also testified that he had reviewed the information on those maps and had the ---

THE COURT: Well, just now -- wait a second. I overrule his objection because all he did was

publish the exhibit. Now, if you're seeking more, that's your -- that's something you need to do. But right now Mr. Guild's concerned about the truth of the matter asserted. It's simply publishing the document into evidence. I assume -- is this document in evidence?

MR. GUILD: I have no idea, Your Honor.

MR. MUSTIAN: Yes, Your Honor, it is.

THE COURT: If it's admitted, it's admitted. He can publish it. So, overruled.

Q: Mr. Mosley, did you have occasion to -- did you sign this document?

A: I did.

Q: And as part of signing that document, what were you attesting to?

A: The accuracy of the document.

Q: And so, based on your personal knowledge and your understanding, are those measurement setbacks, were they accurate?

MR. GUILD: Objection. Based on his understanding? That is inadequate foundation for establishing the accuracy of anything. His understanding is nice, but it does not establish the accuracy. He's asking about the accuracy based on something that cannot establish the foundation.

THE COURT: Do you want to respond?

MR. MUSTIAN: I've talked with Mr. Mosley about whether or not he reviewed the work product of the staff members underneath him and he said yes. He said that he had verified that they were accurate.

THE COURT: You asked him questions about that in a -- maybe in a different context. I want to be clear as to this context.

Q: Okay. Did you have occasion to review the work product of, I believe it was Julie?

A: Yes.

Q: Did you have an occasion to review her work product?

A: Yes.

Q: Did you have occasion to review whether or not that work product was accurate?

A: Yes.

MR. GUILD: Objection. Move to strike. How -- what -- there's no foundation for establishing that his review validated the accuracy of anything. Just because he believes or understands it to be the case, doesn't make it so. He simply cannot establish ---

THE COURT: Your question simply was -- Mr. Guild,

the question was simply, did you have occasion to review the accuracy of the work product.

MR. GUILD: Lack of foundation, Your Honor.

THE COURT: And he said yes.

MR. GUILD: Lack of foundation.

THE COURT: I overrule that.

MR. GUILD: How could you -- Your Honor, if I may. We have a critical question that you've objected to our witnesses routinely ---

THE COURT: He hasn't asked the ultimate question yet, so I overrule that. And I don't need any further argument. I get this. Mr. Mustian hasn't got where he needs to get, I don't think. But that -- go ahead.

Q: The information that's reflected in the application, did you attest that that information is accurate?

A: I did.

Q: Is this information contained in the application?

A: It is.

Q: In the course of your working on this application, did you determine whether or not these numbers were accurate?

A: Yes.

Q: How did you do that?
A: I reviewed the maps that were generated by Julie to make sure they were accurate.
Q: Move on to -- this is now -- we're on Heath Coggins. Is this the same type of table of contents that we saw with Mr. Coggins?
A: It's the same.
Q: I'm going to try to go through this a little quicker now, but -- all right. Can you tell me what this document is?
A: That's the Preliminary Site Approval by DHEC.
MR. GUILD: Your Honor, I would just offer -- I'd stipulate that if he go through, the answers will be the same as to the other two permits as they were for the initial one. Save us all time.
MR. MUSTIAN: That would certainly be fine.
Q: I want to show you this map, which is DHEC 2902. Do you see that?
A: Yes.
Q: What is this a map of?
A: It's a topographic map of Heath Coggins.
Q: Mr. Heath Coggins' facility?
A: Topographic map of the Heath Coggins' facility, yes.

Q: Okay. Did you have occasion to consider the topography of the site initially when Mr. Heath Coggins came to you?
A: Yes.
Q: And did you have occasion to review that topography?
A: Yes.
Q: Throughout this application process, did you express any concerns to Mr. Heath Coggins about the topography of his site?
A: No.
Q: Did you express any concerns to him regarding issues with stormwater management plans?
A: No.
Q: I'm going to turn to Mr. Jim Young's.
MR. MUSTIAN: And, Your Honor, with respect to Mr. Young's facility management plan and understanding Mr. Guild's -- and I appreciate his stipulation on that. There is a little bit of difference with Mr. Young's in that he is land applying. So, I do believe I need to go through that just briefly.
Q: Could I point your attention to looking at DHEC 3329, do you see that?
A: Yes.

Q: Okay. And I'm going to start at the top of the page. See where it says Crop Management Plan?
A: Yes.
Q: Is that different from what is in Mr. Heath Coggins' and Mr. David Coggins' application?
A: It is.
Q: Why is that?
A: Jim Young's plan is to apply the litter on some of the -- on land in the areas.
Q: Okay. And direct your attention to DHEC 3302. Do you see that document?
A: I do.
Q: Can you tell me what that is?
A: This is an example of one of the pages in the Crop Management Plan portion of the Nutrient Management Plan.
Q: And 3306 can you tell me what that is?
A: It's another part of the Crop Management Plan. It shows the crop types, the application -- planned application dates, the source of the nutrients, the application method, things of that nature. How many nutrients are applied per acre based on these plans to each field, to each crop.
Q: And where do those numbers come from? Do you

know?

A: We utilize a software called Manure Management Planner. It's a software that NRCS expects us to use when we develop nutrient management plans. And it allows us to enter in soils information, crop information, litter analysis information, litter production amounts, and to do a plan scenario of land application for the cropping system.

Q: Show you 3310. Can you tell me this document is?

A: This shows the nutrient balance on each field by crop. And that's the nutrient balance of the macro nutrients; hydrogen, phosphorus, and potassium.

Q: And ---

A: It also shows the yield goals for each crop and the Clemson fertility recommendations for each crop.

Q: You say the Clemson fertility recommendation. Where do those numbers come from?

A: That comes from Clemson Extension. And they are built into the software, Manure Management Planner software.

Q: Show you what this document is, DHEC 3314.

A: So, this is another example of one of the parts of the Crop Management Plant. This shows the phosphorous level at the beginning of the plan and then projected phosphorous level at the end of the plan for each field.

Q: Okay. I'll show you DHEC 3315.

A: This is an example of the manure inventory. So, at a point in time you're going to have a certain amount of litter in the houses and in the stacking sheds after they're constructed. So, this is an accounting of the litter as it's produced and as it's moved and applied in the plan.

Q: DHEC 3316. Can you tell me what this is?

A: This is a summary of the commercial nitrogen that would need to be applied to augment the litter applications for the crops that are planned.

Q: DHEC 3317.

A: This is an overall farm nutrient balance that shows the amount of nutrients produced on the farm, the amount of nutrients applied on the farm, and the utilization of the crops of those nutrients.

Q: Okay. And I see you have here -- could you tell

me what these numbers are, average nutrient balance per spreadable acre per year?

A: Those are -- on average across the acreage that's included in the plan, that's the balance of the nutrient for that -- for those fields. So, in this case you have a 102 pounds per acre, a deficit of nitrogen supplied by the litter, a nine-pound per acre surplus of phosphorous provided by the litter, 33-pound deficit of potassium provided by the litter to the crops.

Q: Okay. And how are those deficits addressed in general?

A: Those would be addressed by commercial fertilizer applications.

Q: All right. I want to go to -- are you familiar with the requirement regarding how manure will be spread?

A: Yes.

Q: If I show you -- this is DHEC 3187.

A: It's the second paragraph.

Q: Okay. And what does that say?

A: Second paragraph indicates that a pull-behind spreader will be used to land apply the litter.

Q: And I'll show you 2242. Can you tell me what this section is?

A: That's the section where we go into detail showing the land application areas, conservation practices that will be utilized on those land application areas.

Q: And I'll show you this map. Can you tell me what this map is?

A: This is a vicinity map that shows the two different land application areas that Jim Young is planning on utilizing.

Q: Okay. And could you tell me what this map is? This is DHEC 3244.

A: This is a soils map for one of the areas that was just shown on a previous map.

Q: And 3245, can you tell me what that is?

A: That's a setback map for that same area showing the applicable setback requirements.

Q: And 3246. Can you tell me what that is?

A: That's a topographic map of the area -- one of the areas that Jim Young will utilize for manure application.

Q: 3247.

A: That's a floodplain map indicating that it's not within the 100-year floodplain.

Q: Show you a series of maps. Starting with 3248. Can you tell me what this map is?

A: That's a setback map for the other property included in the Land Application Plan.
Q: 3249?
A: Topographic map of that same property.
Q: And 3250?
A: And floodplain map of that same property.
Q: 3251?
A: Soils map for that property.
Q: 3252, can you tell me what that is?
A: Yeah. That's a blown out map that shows the floodplain in the vicinity of those two fields because the individual maps were too close to show exactly where the floodplain is.
Q: Show you a topographic map of Mr. Young's facility. Did you have occasion to review that topographic map?
A: I did.
Q: During the application process, did you have occasion to express any concerns of yours to Mr. Young about the topography of this site?
A: No.
Q: Did you ever express any concerns to him with respect to the ability to implement a stormwater plan on that site?
A: No.

Q: Jump ahead. I'm going to show you DHEC 3348. Do you recognize that document?
A: Yes.
Q: What is that?
A: That's a document granting permission from one of the landowners whose land is included in Jim Young's application to be able to spread litter on that land.
Q: To your knowledge, did all the property owners that were going to apply -- or that would be land application sites, did they provide permission?
A: Yes. There's a document exactly like this for each of the different landowners.
Q: Mr. Mosley, let me talk to you about topographic maps. In your -- you've done stormwater plans before; is that correct?
A: Correct.
Q: Okay. Have you seen the topographic maps, and we just talked about some, that show ten-foot contours. Have you seen those?
A: Yes.
Q: Okay. And where do those maps come from, what are they defined as? Do you know?
A: Those are USGS topo maps. It's a standard

source for topographic information in the Unites States.

Q: Do you use those when you are developing a stormwater plan?

A: Not when we're developing a plan in detail.

Q: Why not?

A: They don't give us the precision accuracy that we need to create a grading plan.

Q: Were you present for Dr. Hargett's testimony about the impervious areas of the proposed facilities?

A: Yes.

Q: Okay. And what was your understanding as to how much area he said would be impervious, if you recall?

A: My understanding was the entire footprint of the site, including an area -- I believe he said 40 feet from the exterior of the barns ---

Q: I'm sorry. Exterior of what?

A: Exterior of the poultry barns and the area that's inclusive with that, that extent inward was the impervious area.

Q: Okay. Is impervious, is that a term of art?

A: Yes.

Q: And in what context is impervious used?

A: Impervious areas are areas that if rain water hits those areas, it does not infiltrate. It runs, runs off.

Q: And what are some impervious surfaces?

MR. GUILD: Objection. This calls for expert opinion. The witness was not identified as an expert. He's only able to testify as a fact witness to what he observes. That's the rule we've been following so far with our witnesses, regardless of their actual backgrounds and experience. Don't doubt it for a second, but, you know, the rules of the game were they had to idea an expert at a certain date. We did. They exhaustively deposed our expert. They said, we have no expert. We did not haven an opportunity, therefore, to be informed in advance that they would seek expert opinion evidence from anybody, either DHEC nor the Applicants. So ---

THE COURT: You don't have to go into all that.

MR. GUILD: Yes, sir. He's getting ready to ask him opinion evidence and I object.

THE COURT: As to impervious surfaces.

MR. GUILD: As to opinions about perviousness or impervious or degree of or stormwater runoff or

any of those things.

MR. MUSTIAN: You're, I'm not asking for an opinion on -- it is a factual question as to what is an impervious surface. It's not an opinion. It's a fact. I'm asking him what is an impervious surface.

MR. GUILD: That calls for expert opinion. I mean, it ---

THE COURT: Calls for expertise. You're asking him -- I mean, you can ask -- anybody can look up the definition of impervious. So, you're asking it in the context of this permit; are you not?

MR. MUSTIAN: I mean, I'm asking him ---

THE COURT: You can ask him about the design, but -- and what he did -- took into account for the design, but I don't think you can ask him his expert opinion as to whether this is -- constitutes an impervious surface. You can respond to that, it's just -- that's my viewpoint.

MR. MUSTIAN: I mean, Your Honor, I think it is a matter of fact as to what is an impervious or a pervious surface as to -- I mean, it is a factual issue as to whether or not water can

flow through a substance or not. And that's all I'm asking.

THE COURT: Well, you specifically asked him is -- I think, is impervious a term of art.

MR. MUSTIAN: I did, yes, sir.

THE COURT: Well, by your own question, you indicted yourself on whether this is an opinion or not.

MR. MUSTIAN: Okay. Beg the Court's indulgence, Your Honor. Your Honor, that's all the questions I have.

THE COURT: Okay. We're going to break for lunch.

MR. GUILD: Your Honor, may I just inquire? I take it that DHEC goes first, then I'm able to cross after DHEC, is that ...

THE COURT: No. I'm going to flip it just for the fun of it. DHEC goes first.

(Off the Record)

MR. MOSLEY - CROSS EXAMINATION BY MR. HIGHTOWER:

Q: Good afternoon, Mr. Mosley. My name's Stephen Hightower and I represent DHEC in this matter.

A: Good afternoon.

Q: Earlier you stated on Direct that staff members from AWT visited this site and they used GPS devices to file coordinates of different features; is that correct?

A: Yes, sir.
Q: Okay. And if I understood, they brought that information back and they loaded it into a program that also had access, I think, to Laurens County GIS and property records?
A: Yes.
Q: Okay. How many applications have you worked on in South Carolina?
A: Many. I'm not sure the number.
Q: I'm sorry. Let me make -- with respect to agricultural facilities, beside these three cases, how many other cases have you worked on in South Carolina?
A: I don't know the exact number. I know it's dozens.
Q: Dozens, okay. So, it would be a large number?
A: Yes.
Q: Okay. And so, would it be fair to say that you have an understanding of what the Department is looking for when we want you to prepare a management plan and in inputting information in the application forms; would that be not correct?
A: That is correct.
Q: Okay. And is it customary for agricultural

engineers who produce these type of plans to use GIS devices and global positioning devices in order to map different locations on the site and in helping them to prepare the placement of potential barns?

A: It is. That's the technology we use on all of our applications.

Q: You sated that you are certified by NRCS with regard to structures that they are going to provide some kind of farms on; is that not correct?

A: Yes.

Q: And do they also use those -- strike that. When you fill out applications for those structures, are you also using the same types of technology, the GIS, the global positioning devices, property maps that are online in order to properly site these particular structures?

A: We are.

Q: Okay. And you stated that you are a senior or you are, I guess, the senior reviewer for AWT; is that correct?

A: I'm the senior project engineer.

Q: Okay.

A: And in the case of these type of plans, I am the

senior reviewer, yes.
Q: Okay. How many people work for -- excuse me. With regard to this facility, how many people were with you or worked with you, I should say?
A: There were three other people in our office that worked on these applications.
Q: And would it be fair to say that you met with them regularly to supervise their work, to get input with them, to discussion what they were doing?
A: Yes.
Q: Okay. So, they just didn't do this in the vacuum, they were intimately involved in the work; is that not correct?
A: That's correct.
Q: Okay. And I'm going to show you what is -- it's DHEC 918. Are you familiar with this particular document?
A: I am.
Q: Okay. And if we look down to I think where it says comprehensive nutrient management plan, it states that you certify that you have reviewed this plan for technical adequacy and that the elements of the plan are compatible, reasonable, and able to be implemented, all elements meet

NRCS standards and specifications, as well as the requirements of DHEC. Do you see that?

A: Yes, sir.

Q: Okay. And you signed that, correct?

A: Correct.

Q: And that signature, what, if any, significance does it have?

A: It's my approval of the plan. It says -- it's an indication that I agree to that statement that's written in there above my signature.

Q: And you're a professional engineer, correct?

A: I am.

Q: Licensed in South Carolina?

A: Yes.

Q: And so, if you provided documents that were inaccurate or such, it could potentially be brought to the attention of the licensing board for PEs; is that not correct?

A: Absolutely.

Q: So, you have a vested interest in making sure that whatever you sign is accurate; wouldn't that be correct?

A: Very much so.

Q: Okay. And I believe he stated that where forms -- where pages in either the application

or the -- excuse me the comprehensive nutrient management plan, and I'm looking at DHEC 925, that when you saw the Xs, that referred to there had been a change and that was the old changed information, correct?

A: That's correct.

Q: And you stated that you did that in response to requests from DHEC, correct?

A: Yes, sir.

Q: Okay. So, if DHEC had looked at these numbers and determined that there was anything wrong with it, you would have changed the actual distances; isn't that correct?

A: That's correct.

Q: Or I should have even specify more. If you had a disagreement with what the numbers were, would you have had to go out to the site and maybe reshoot things just to make sure that they had been no error?

A: We would have had to make sure that we were comfortable with the numbers in the application, yes.

Q: Did DHEC ever tell you that any of the actual distances they found to be inaccurate?

A: No, sir.

Q: Okay.
MR. HIGHTOWER: One moment, Your Honor. No further questions.
THE COURT: Mr. Guild.
MR. GUILD: Thank you, Your Honor.
MR. MOSLEY - CROSS EXAMINATION BY MR. GUILD:
Q: Good afternoon, Mr. Mosley.
A: Good afternoon.
Q: Get you to take a look at a couple of the figures from your plan, Mr. Mosley. This appears to be the -- one of the site maps for the Heath Coggins' proposed facilities. Do you recognize that, sir?
A: Yes, sir.
Q: Now, the nomenclature on here I think is explained in the legend, but the blue hash lines represent stream buffers; is that fair?
A: Surface water buffers, yes.
Q: Buffers from surface water. And the two hash blue lines that run diagonally from upper left to lower right, those are channels of the Little River; isn't that right?
A: Yes.
Q: Tell us what the significance of the solid yellow -- it sort of runs through several of the

barns and longitudinally through the site, what's that?

A: That is the 400-foot property boundary setback, so ---

Q: No. I'm talking really about this feature here, the solid yellow figure there. Do you see what I'm talking about?

A: Yeah.

Q: What's that, please?

A: That's the -- if you take a the outer boundary of that ---

Q: Yes, sir.

A: --- that's 400 feet from the property line.

Q: Oh, I see. Okay.

A: So, basically ---

Q: And you've got a waiver from the neighbors because ---

A: From the -- yes, from Jim Young.

Q: Right.

A: Yes.

Q: Okay. I understand. Thank you. All right. So, we've got the six barns shown on here and then there are some rectangular red features that are to the north and east of the end of the barns. What are those? I'm just indicating

there.
A: Okay. The two structures that are identical in size are some plan stacking sheds.
Q: The plan -- the stacking sheds that are no longer applied for, but you understand they may apply for them in the future?
A: Yes. Correct.
Q: And then what's this feature here I've just indicated with that little pointer? It's also toward the north and east end of the barns. What's that?
A: Those are proposed well locations.
Q: Wells. Okay. And on the other side there are also two figures toward the north and toward the southwestern corner of the barns. What are those?
A: Those are also the proposed well locations.
Q: For the four well locations?
A: Yes, sir.
Q: Okay.
THE COURT: We need to make our pointer bigger.
MR. GUILD: That's a little pointer, isn't it, Judge?
Q: All right. So, the distances that you understand from others where set out on the application are distances that are reflected on

this map measuring from the rectangular footprint of the barn as depicted to these various features, correct?

A: Yeah. They would be measured to the closest part of that barn.

Q: Closest part of the barn. Thank you. And I take it from your previous testimony, you did not go to the site and make those GPS measurements, did you?

A: I did not.

Q: And it was somebody else that works in your organization that did that?

A: That's right.

Q: But in any event, as we understand, the six barns are not going to be sort of air lifted onto the existing topography. You're going to have to do mass grading at the site to create this pad on which the barns will be constructed, correct?

A: The person constructing it would have to do that, yes.

Q: Can you keep your voice up a bit? I'm just having a little bit of a hard time hearing.

A: The person constructing the site would have to do that, yes.

Q: Right.
THE COURT: Bring the microphone closer to you.
Q: And so, when the person constructs the site, they'll also have to leave enough of a pad to include the stacking sheds that are between the ends of the barn and the stream buffer, correct?
MR. MUSTIAN: Your Honor, objection. He's asking about opinions about construction and stormwater runoff issues.
MR. GUILD: I'm going to get there, Judge. But I'm asking this guy, who says he has accurately depicted the facility on the -- and the application. I'm asking him foundation questions to test the accuracy of those measurements.
MR. MUSTIAN: Your Honor, he's asking what would they have to do, which is calling for speculation, what would they have to do in order to build these barns.
MR. GUILD: Well, either he knows or he doesn't know. I mean, he may not know ---
MR. MUSTIAN: Well, he can ask that question, but he can't ask them what would they do.
MR. GUILD: All right.
THE COURT: I overrule. I think he can ask either

one.
Q: They'll have to build a pad that's big enough to encompass those stacking sheds, won't they?
A: There will have to be a pad where the stacking sheds are ---
Q: Right.
A: --- to build -- to build the stacking sheds, yes.
Q: Yes. And it will also -- and it'll be between the ends of the barn and the stream buffer that's shown on her buffering you from Little River, correct?
A: The pad?
Q: Yes, sir. The pad for the stacking shed as well as the pad for the barns.
A: Well, the pad for the barns will be in the location of the barns shown on the map.
Q: Yes, sir.
A: And the pad for the stacking sheds will be in the location of the stacking sheds.
Q: And there will be a pad for the stocking sheds between the barns and the river, won't there?
A: There will be a pad for the stacking sheds between the barns and the river, yes.
Q: All right. Now, so, if someone went to the site

and tried to measure from a point on either the edge of the barns as depicted here and any feature, the property boundaries or the river, that would not accurately represent where the actual corner or the edge of the barn is because it hadn't been graded yet, is it?

A: It has not been graded, that's true.

Q: And when you grade it, the topography of the site will be altered from that which is depicted on this map; isn't that true?

MR. MUSTIAN: Your Honor, objection. He's calling to speculate. He said that he doesn't know -- or he can ask him if he knows how it will be effected when it's graded. But whether or not it will accurately reflect it after it's graded or not calls for speculation.

MR. GUILD: Your Honor ---

THE COURT: Calls for opinion. And if he wishes to open that door, he can open that door.

MR. GUILD: I'm cross examining, Judge ---

THE COURT: Yeah, that's what I said.

MR. GUILD: Thank you.

Q: You're going to have to move dirt to create a pad for this -- these barns and as to those stacking sheds, aren't you? Whoever does it is

going to have to do that, aren't they?
A: To some degree, yes.
Q: Say again?
A: To some degree, yes.
Q: Yes. Well, to cut and fill, depending on what the to topography is at the site, to create a flat pad for six barns and two stacking sheds, correct?
A: There'll be a pad, there will probably be some slope to that pad.
Q: At the edge of the pad you've got to have a stable slope, correct?
MR. MUSTIAN: Your Honor, I'm going to object along this line. He's asking about the stacking shed. The stacking shed is no longer a part of this application, so this line of questioning is irrelevant.
THE COURT: I'm going to sustain it unless you give me a good reason not to.
MR. GUILD: I think there's a very good reason. They're showing it on the map and they say they intend to put it in there, they just haven't got a permit for it yet. But they're going to have to design this facility so that the grading will be closer to the river than just the footprint

of the barns, Your Honor. I mean, it just stands to reason.

MR. MUSTIAN: Well, Your Honor, stands to reason there's nothing in evidence that would reflect that ---

MR. GUILD: Yes, there is. There's a map for gosh sakes.

MR. MUSTIAN: There's a map that the stacking shed is no longer a part of it, so the stacking shed's not going to be in there. There's nothing in the record about how they're going to grade it, whether or not they're going to included the stacking shed as part ---

MR. GUILD: Precisely.

THE COURT: I'm going to let y'all argue, number one. Number two, there is evidence in the record that they intend to get a stacking shed later on.

MR. MUSTIAN: Yes, Your Honor. But that would be part of a separate permit. They would have to apply, go through this entire process again, go through a separate permitting process in which case they'd have to put in maps and all those sorts of things. So, I mean ---

THE COURT: Are you saying the stacking shed may be in a different location?

MR. HIGHTOWER: That is correct, Your Honor.

MR. MUSTIAN: Could be, yes, sir, Your Honor.

MR. HIGHTOWER: The Department will review that application. And at that time you'll actually have a situation where you'll have a completed facility that's in operation, so you'll actually know exactly where all the boundaries that Mr. Guild is talking about. And where they're depicted now, they may not be permitted in the future or even permitted at all. There's no guarantee that they will be.

THE COURT: With that said, your response seems to be ---

MR. GUILD: I'll ask another question.

THE COURT: Okay.

Q: Did you believe, when you drew this map, that that was an appropriate location to place a stacking shed should they choose to seek an application for stacking sheds, Mr. Mosley?

A: That was a location that we decided to set forth on the map, yes.

Q: Okay. Fair enough. So, we know there's going to have to be grading at the site and the site grading will change the topography. And will you conceded that that would change the distance

measurements that you have set forth in the application when you actually go to the site and measure from the corners of the barn to, let's say, the stream channel of Little River as one example? The numbers will change, won't they?

A: They may.

Q: The numbers will change between the corners of the barn and the site property line, won't they?

A: They may.

Q: So, the numbers that are in your application you know will be inaccurate, those are not the numbers that will actually reflect the distances from any of the features that you depict in your application because you're going to grade the site and change those distances?

A: I don't know that.

Q: Okay. Now, it's also been argued extensively by counsel that there is the expectation that the two Coggins and Mr. Young will have to get some sort of stormwater management permit in order to actually construct and operate these facilities. Do you understand that?

A: Yes, sir.

Q: Have they asked you to prepare such a plan?

A: No, sir.

Q: Have they asked you to prepare a grading plan?
A: No, sir.
Q: Can we acknowledge that there is no grading plan nor stormwater management plan contained in the permit application that you prepared?
A: That's correct.
Q: So, to manage stormwater off of the pad on the barns that are going to be constructed, you're going to have to route stormwater ultimately to Little River; isn't that correct?
A: I'd have to be involved with the stormwater pollution prevention plan to determine where the stormwater would be routed to.
Q: Can we agree that stormwater runs downhill? Do you agree with that?
A: Yes.
Q: So, you got to design a stormwater plan with a grade on site in mind to drain the site stormwater off the pad and the barns downgradient somewhere; isn't that right?
A: That's correct.
Q: And the somewhere here is down into the floodplain of the Little River; isn't it?
A: That's downhill from the site, yes.
Q: Yes, sir. Okay. Now, are you familiar with the

use of detention ponds and stormwater management?

A: Yes.

Q: If you're going to build a detention pond to collect and detain stormwater off of this facility, it's going to be downgraded from this facility in the floodplain of the Little River; isn't it?

A: I can't answer that.

MR. MUSTIAN: Your Honor, again, he's calling for speculation. This is not opinion testimony about what his opinion is. He's asking speculation as to where this alleged detention pond is going to be. He said that -- if I could finish. He said that he has not worked on a stormwater management plan for this property. He doesn't know what the stormwater management plan is going to be. And this is a speculative line of questioning.

MR. GUILD: Your Honor, I'm cross examining. He can either tell me if he doesn't know. And maybe now he knows he doesn't know because he's been suggested by counsel. But let me rephrase the question this way.

Q: If stormwater has to be routed downhill -- and,

again, we're looking at the example of one of the three facilities. And this particular facility is whose now? I'm having a hard time with the legend.

A: It's Heath Coggins' facility.

Q: Mr. Heath Coggins' facility. All right. If you're going to route stormwater off of the pad for the Heath Coggins' facility, it's going to be downhill. And where could you put a detention pond that's downhill from the barns if not in the floodplain of the Little River?

A: Outside the floodplain.

Q: Where? What's downhill from those barns that's not in the floodplain?

A: This map doesn't show the floodplain.

Q: Well, you can see where the channel of the river is. That's your two buffer zones. They're downhill from the barns, aren't they?

A: That's not an indication of the floodplain. That's an indication of the setback from the water feature.

Q: Yes, sir. Okay. So, where -- you're going to put them in the setbacks from the water feature then, aren't you?

MR. MUSTIAN: Objection, Your Honor. He's

characterizing it as this is something that he's going to do. He doesn't know what the stormwater management plan ---

THE COURT: He's asking him where it could go. Is not runoff an issue?

MR. MUSTIAN: Your Honor, I guess the point is is that we didn't offer him as an expert, period. We didn't qualify him as an expert in stormwater management ---

THE COURT: Like I said earlier, he can open that door. If he opens the door, he opens the door and then you can go into it later on.

MR. MUSTIAN: Right. But, Your Honor, now we're beyond opinion. Now we're into speculation. I mean, there's a difference between opinion and speculation. I mean, he's asking him to speculate.

MR. GUILD: You know, I mean, if it were Mr. Mustian asking it, it would be expert opinion. But I want to know, as somebody who he asked was the guy who designed stormwater systems, I mean, that's ---

THE COURT: If you ask him for an opinion, you open the door for him to give opinions.

MR. GUILD: On this question.

THE COURT: Well, you have to -- sir, you can decide how -- I can't tell you how far it opens the door. I'm just familiar with the Rules of Evidence. And the Rules of Evidence say that if you open the door for him giving an opinion, then they can come back and ask for further opinion. So, I agree with you, he's not -- you can ask for it. That's your call. So, I'm overruling the objection and allowing you to proceed down whatever path you wish.

MR. GUILD: That doesn't sound like a very inviting path, Judge, the way you just framed it.

THE COURT: I'm just saying from an evidentiary standpoint that's the path you can go, so.

MR. GUILD: With all respect, I disagree with that, but that's -- obviously you're the judge on that decision.

THE COURT: I'm following the Rules of Evidence, so I intend to take that path.

MR. GUILD: Yes, sir. That's what I'd like you to do as well. I hope to have an opportunity to object if the times comes and I need to.

Q: You've got -- you show just adjacent to -- just north and east of the facility, this stream buffer, the blue line. You see that, sir?

A: Yes, sir.
Q: And that's downhill from where you proposed to put these barns, isn't it?
A: Yes, sir.
Q: And I ask you just to suppose that having to route the stormwater downhill, you have to put the detention pond closer to the stream and perhaps in that stream buffer. I'm just asking you to suppose that. If you did that, would you be able to get the setback that the regulations require from the waters of the state? Would you have to measure from the detention pond, wherever you put it, to the waters of the state if the detention pond was below the pad?
A: The setbacks are from the poultry barns themselves.
Q: That's your view?
A: That's the setback requirements from the poultry barn ---
Q: You got to keep your voice up, please, sir. I'm sorry, I can't hear you.
A: The setback requirements in the regulation are from the poultry barns.
Q: It says that, poultry barns?
A: Yes.

Q: Doesn't say facility? Does it say stacking sheds don't count? Does it say detention ponds don't count? It says facility, doesn't it?
A: There's a separate setback requirement for the stacking shed versus the poultry barn. There's a separate setback requirement for the stacking shed as compared to the poultry barn.
Q: And is there any setback that you take into account for the stormwater management structures for the facility from the waters of the state?
A: At this stage of the project, not at this stage. But in the stormwater plan that would be addressed.
Q: And what are the setbacks that you expect will be applicable then?
A: I'm not sure because I'm not working on that part of the project.
Q: Are you familiar with the setback requirements for stormwater detention facilities from the waters of the state in South Carolina?
A: It's a -- I am.
Q: And what's the requirement?
A: It depends on the site.
Q: Will you be able to get a stormwater detention pond between the barns and the waters of the

state at this site?
A: You can get the stormwater BMPs that you need to get a stormwater pollution prevention plan covered.
Q: No, I'm asking about a detention pond. Will you be able to get a detention pond sited on this site between the barns and the waters of the state, Little River?
A: I'm not sure because I'm not sure that's the BMP that would be utilized in this situation.
Q: So, you think it's possible you can get a stormwater -- a permit without even having a detention pond at this site; is that what your view is?
A: There are other options besides detention ponds. But I don't know what they may be for this particular site.
Q: Now, if I were building a Wal-Mart parking lot, not a poultry facility with thousands of tons of poultry manure, if I were building a Wal-Mart parking lot, I'd have to have a detention pond to collect the water that flows off that parking lot; isn't that true?
MR. MUSTIAN: Objection, Your Honor. Relevance.
MR. GUILD: Your Honor, we're going to talk about

stormwater management and pollution control going into the water, we have to have a detention pond for commercial ---

MR. MUSTIAN: For a Wal-Mart parking lot. We're not talking about a Wal-Mart parking lot.

THE COURT: Doesn't he have wide latitude on cross examination?

MR. MUSTIAN: But, I mean -- he does, Your Honor, but I'm objecting to the question relating to what the relevance of what may be required for a Wal-Mart parking lot has to do with the issues that are before us.

THE COURT: Well, I agree with you on that.

MR. GUILD: Can I have an answer to the question?

THE COURT: Yeah.

Q: You'd have to have a detention pond for a Wal-Mart parking lot, wouldn't you?

A: You'd have to have stormwater BMPs that meet the regulation.

Q: And would that include a detention pond?

A: Whatever the requirement ---

Q: Do you know? I mean, if you don't know, just say you don't know.

A: There has to be -- BMPs have to meet the requirement.

Q: Yes.
A: I don't know whether ---
Q: Do you ---
THE COURT: Hold on. Let him finish.
A: I don't know whether it needs a detention pond or not.
Q: You don't?
A: No.
Q: You create a pad of more than an acre, it become less pervious, you don't have to do a pre-develop versus post-development discharge analysis and detain the amount of increased discharge under the stormwater standards in South Carolina? Don't you know that?
A: It's a site specific requirement and it depends on the project, depends on things that I haven't looked into at this point and I'm not engaged to do.
Q: You just don't know whether a detention pond would be an appropriate thing to do to prevent pollution from leaving this site?
A: As I'm not involved with that part of the project, I can't answer that.
Q: Did DHEC ask you to figure out whether you would need to put detention structures too close to

the Little River stream, waters of the state, did they ever ask you any questions about, where are you going to put the stormwater feature that would be between the barns and Mr. Heath Coggins' site and Little River?

A: No, because I wasn't -- I'm not working on the stormwater pollution prevention ---

Q: Well, I understand you've said that several times. But you're submitting an application that's going to be considered by this Court to permit the operation of a large agricultural facility. And I'm just asking you, did DHEC even raise the question of whether stormwater management features were going to encroach on the buffers for Little River, get too close to the river?

A: They didn't ask me, no.

Q: They didn't ask, okay. Did they ask you to -- tell you at all how you were going to manage stormwater pollution flowing off this site when you submitted this application?

A: No.

Q: He asked about the floodplain. DHEC 2093. Does that pink shading reflect the floodplain?

A: Yes, it does.

Q: And what's the distance between the nearest corner of the stacking shed and the floodplain approximately, Mr. Mosley?
A: I'm sorry, I can't read the scale on the bottom.
Q: Would it help if I just showed you the page?
A: Yes. I'm still not sure what the numbers are.
MR. GUILD: May I borrow your magnifier there, Mr. Hightower?
Q: If you couldn't read it, I don't know how Mr. Chaplin and the DHEC folks did because that's the color original copy.
A: (No verbal response).
Q: I'm sorry. Speak up.
A: I can't read that.
Q: Well, let's see if we can help a little bit here. So, the barn separation for this site is how much, 60 feet?
A: Yes.
Q: All right. And so, can we agree that it's not -- two times 60 feet, probably a hundred feet from the edge of the stacking sheds to the edge of the floodplain; is that a good estimate?
A: From the composter, somewhere around a hundred or so. I'm not ...
Q: Okay. So, if one put stormwater management

features downgradient from the stacking sheds -- you say there's a composter there as well?

A: The smaller building above two stacking sheds.

Q: Okay. So, we've got two stacking sheds and then we have the smaller structure, which is a little hard to read. And that's that?

A: That's right.

Q: That's a composter?

A: That's right.

Q: Dead birds?

A: Yes.

Q: So, we're going to have dead birds a hundred or so feet from the floodplain and we might have to add stormwater management features, again, if that's on a pad, downgradient -- because water flows downhill, downgradient of the composter. We're going to have dead birds buried in a -- well, not buried, they're going to be -- it's above-ground facility composter; is that what that is?

A: Yes.

Q: So, a composter with dead birds on a pad and then stormwater management features below that, might that encroach the floodplain?

A: No. You could do a stormwater plan without

encroaching the floodplain.
Q: All right.
MR. GUILD: Moment please.
Q: I take it when you said you weren't asked by DHEC to do any -- to prescribe any stormwater management features as part of your application submittal, that includes not just a detention pond, but you heard Mr. Mustian, your counsel, talk about terracing. You weren't asked to submit a plan for terracing below these sites, were you?
A: No, sir.
Q: You weren't asked to submit a plan for a vegetative buffer stretch between the barns and the floodplain, were you?
A: No, sir.
Q: Now, can we agree, Mr. Mosley, that, aside from the site-specific detail, the nutrient -- your comprehensive nutrient management plans include what I'll just call boiler plate language that you use at all your plans; is that true?
A: A lot of the language in the plans is identical to other similar plans.
Q: Standard language.
A: Yes, sir.

Q: And in this particular set of plans, because Amick farms is the integrator, their odor and vector management plan is common at all three facilities; is that right?
A: Yes, sir.
Q: Okay. I'm picking the plan for David Coggins, but let me show you that. And this appears DHEC 1008 and DHEC 1009. All right. So, I'm really focusing on a detail here, but the odor abatement plan recognizes that the barns are ventilated with ventilation fans; does it not?
A: Yes.
Q: It refers to ventilation fans; does it not?
A: Yes.
Q: I'm sorry. I couldn't hear.
A: Yes.
Q: Okay. And in part I'm going to direct your attention to the last paragraph. The last sentence of the last paragraph. Would you read that please?
A: The last sentence of the last paragraph?
Q: Yes, sir. Begins with odors.
A: Odors can be carried on the dust particles from a poultry facility.
Q: Next sentence please, as well.

A: Dust control on the buildings is an important factor in reducing the --
Q: Next page.
A: -- amount of odor at the facility.
Q: All right. Continue.
A: Dust control can also improve the indoor air quality of the poultry barns, which is important for animal health and worker health and safety.
Q: Next sentence.
A: Dust in the buildings can result from the feed, manure, wood shavings, and animal activity.
Q: Do you dispute those statements of fact that are included in Amick's dust control plan?
A: No.
Q: So, dust can include manure particles, correct? That's what it said. You just read it.
A: I'm not sure about that.
Q: Well, do you dispute Amick saying that?
A: That they said there's manure in the dust?
Q: Dust in the buildings can result from the feed, manure, wood shavings, and animal activity. Right?
A: Right.
Q: Do you dispute that?
A: No.

Q: And that manure dust is exhausted from the buildings through the exhaust fans. And that's part of what they recognize in the odor control plan that you submitted, correct?
A: Ask that question again, please.
Q: Yes. Manure is exhausted from the buildings, dust particles that contain manure are exhausted from the buildings. And that is in your application in the odor control plan that I just read you, yes?
A: I don't think it's saying manure particles are coming out of the building. That's not my interpretation of it.
MR. GUILD: Well, we'll let the words speak for themselves then.
Q: Now, I noticed that Jim Young Broilers, as your counsel walked you through, Jim Young Broilers' application differs substantially from that of the two Coggins. And that's because Mr. Young is going to manage his own manure; isn't that right?
A: He has a land application component in his operation.
Q: Right. And as Mr. Mustian walked you through, that component includes specific farm fields,

with aerial maps depicting those fields, with buffers on those fields, with specific cover crops, with specific agronomic application rate, with specific assessment of soil chemistry NPK for each of the fields to account for all the manure coming out of this facility, the Jim Young facility, correct?

A: It accounts for a portion of the manure coming out of the Jim Young facility, yes.

Q: So, there's a fraction that he's not going to land apply?

A: That's correct.

Q: And where's that going to go?

A: It's going to be -- L&M brokers.

Q: Oh, okay. I missed that detail. So, Jim Young is going to do some of this stuff and some of it's going off with L&M, right?

A: That's correct.

Q: But as to the stuff -- as to the manure that Mr. Young is managing himself, we have very precise depictions in this record, in this application, knowing exactly how much manure and where it's going to go and the Court can review it to determine whether or not the land application sites are appropriate, a cover crop's

appropriate, the agronomic application rate proposed is appropriate, all of that is in this application, right?

A: Yes, sir.

Q: But as to the fraction of manure that Mr. Young is not going to land apply himself, is going to L&M Manure Brokers?

A: Correct.

Q: And all of manure coming from the Heath Coggins and -- other Coggins?

A: David.

Q: David Coggins. Excuse me. The David Coggins and Heath Coggins farms, all of that manure is going to L&M Manure Brokers, correct?

A: Correct.

Q: And where is L&M going to take that manure for land application?

A: That's their -- they're going to be doing that. I don't know where they're going to take it.

Q: We don't know?

A: We don't know.

Q: All right. Do we know what the agronomic application rate and the specific fields are where L&M is going to put the waste from all three farms, all of the waste from the two

Coggins and part of the waste from Jim Young, do we know what the fields are where that's going?
A: No.
Q: Do we know whether or not any of it's going to be land applied in the Little River watershed?
A: I don't know.
Q: Okay. But if the other two Coggins, David and Heath Coggins, if they had their own individual waste management plans, like at least part of Jim Young's waste had, we would know precisely where it's going, whether it's going into the Little River watershed or the Bush River watershed or some other watershed, we'd know that because you'd have to lay out the fields in the application and the application rate for each of those fields, wouldn't we?
A: Yes, sir.
MR. GUILD: Moment please.
Q: Do you know whether the definition facility that's used in your application process, Mr. Mosley, includes the dead bird composter as a portion of the facility?
A: No, I don't.
Q: How about a burial pit for dead birds?
A: The burial pit follows the same setback

requirements as the poultry barns.
Q: And how about stacking shed for manure?
A: That has a separate requirement.
Q: For setback?
A: Yes.
Q: From waters of the state?
A: Yes.
MR. GUILD: That's all I have. Thank you.
THE COURT: Mr. Mustian.
MR. MUSTIAN: Your Honor, just briefly.
MR. MOSLEY - RE-DIRECT EXAMINATION BY MR. MUSTIAN:
Q: Mr. Mosley, you've been on the site; is that correct?
A: Yes.
Q: Is there anything about the topography or the terrain of that site, as you have visualized it, that gives you concern about whether or not a stormwater plan can be done?
A: No.
MR. GUILD: Objection.
MR. MUSTIAN: Your Honor, he opened the door.
THE COURT: I overrule that.
Q: Is there anything about the topography or terrain of the site that give you concern as to whether or not a stormwater plan can be done?

A: No.
Q: And I understand that you have not worked on a stormwater plan, you have not done any of that planning. But do you believe that one could properly be done and address soil erosion issues and stormwater runoff issues on the site, based on ---
MR. GUILD: Objection. I did not ask him any of that. And I only asked him about the implication of a fraction of the stormwater management plan encroaching on the stream buffer. And this opens the door in ways that he's not qualified -- been qualified to address and he was not been identified as an expert. Your Honor, when I asked him the question, it only had to do with the question of the proximity of the stormwater management system to the waters of the state. I didn't ask him the design a system. He said he hadn't done it. He declined to express an opinion on that subject.
THE COURT: Stop for a second. The case law sets forth, when a party introduces evidence about a particular matter, the other party is entitled to evidence in explanation or rebuttal thereof, even if the latter evidence would not have been

incompetent or irrelevant if it had been offered initially. It is firmly established that otherwise inadmissible evidence may be properly admitted when opposing counsel opens the door to that evidence. So, the issue I have then is Mr. Guild can open the door, but it's got to -- he has to open the door to that which you are seeking to rebut. So, that's what I need to understand.

MR. MUSTIAN: Well, Your Honor, my -- I mean, the way I understood Mr. Guild's questioning was there was a significant line of questioning as far as detention ponds and wouldn't it encroach on the floodplain and terracing and those sorts of thing.

THE COURT: And your question is about?

MR. MUSTIAN: My question is about can -- in his opinion, can a stormwater permitting plan be done on the site where the barns are currently located or as they're reflected on the maps.

THE COURT: Mr. Guild?

MR. GUILD: Your Honor, I did not ask him to design a stormwater plan or express an expert opinion about the efficacy of a plan on this site. At each point he said, I have not done one, I don't

know. And then I focused solely on the question on the proximity of the feature simply assuming gravity has to take it downhill from the pad toward the river about encroaching on the surface water setback requirements. That's all I asked him about. And I did not try to get him to express an expert opinion about designing a stormwater system because he said initially he didn't do it and doesn't know. So, this man simply can't go back and now create a willingness on the part of his own witness to offer an expert opinion about designing one when I refrained from asking about it, because he said he didn't know.

MR. MUSTIAN: Your Honor, he asked him about detention ponds and where they would be located in the floodplains and all that line of questioning. Mr. Mosley said that you could build it without a detention pond.

THE COURT: I remember that.

MR. MUSTIAN: And Mr. Guild said ---

THE COURT: I remember that, so I overrule the objection.

Q: Do you think -- Mr. Mosley, do you think, based on the location of the barns as they are set

forth in the plan, do you think that a stormwater plan can be put together for the sites?

A: Yes.

Q: And as part of that stormwater plan, would part of that include best management practices?

A: Definitely.

Q: Tell me what the purpose of best management practices are.

MR. GUILD: Objection.

MR. MUSTIAN: He asked about best management practices, Your Honor.

MR. GUILD: I did not ask him about the purpose of best management practices. It's completely beyond the scope of whatever door you deemed to me have opened.

THE COURT: He didn't ask him specifically, as I remember, about best management practices. The witness replied about best management practices. Is that -- you can correct me if I'm wrong on that.

MR. GUILD: I think that's correct, Your Honor. That's what I recall.

MR. MUSTIAN: I will defer to your recollection more than I do. I thought that there was questioning

along the lines of best management practices in the context of a detention pond and those sorts of thing.

THE COURT: Okay. All right. Mr. Guild was asking about terracing and vegetative areas. Mr. Guild.

MR. GUILD: Yes, sir.

THE COURT: That is a BMP; is it not?

MR. GUILD: Well, if you'd like to ask about those two specif things, You're right, Judge. But, I mean, if he's asking a compressive question that goes far beyond that, if your principle is he gets to go through the width of the door that I left open, that's what I'd ask you to restrict him to.

MR. MUSTIAN: Your Honor, I'll withdraw the question. No further question.

THE COURT: Mr. Hightower.

MR. MOSLEY - RE-CROSS EXAMINATION BY MR. HIGHTOWER:

Q: Mr. Mosley, you were asked on Cross by Mr. Guild that stormwater would have to go downgradient; isn't that correct?

A: Yes.

Q: Okay. Does it have to go directly downgradient or could it be sent some other direction and

eventually it would get downgradient?
A: Yes. I mean, that speaks to the details of the stormwater plan. You'd have to get a detailed survey on site and figure out how to route that stormwater, but yes.
Q: But the important thing is is that the direct path isn't necessarily the only path.
A: That is correct.
Q: Okay. You were asked about the odor and vector plans and the fact that they are similar for the three sites, correct?
A: Yes, sir.
Q: Okay. Isn't it correct that the conditions for each of the facilities would be approximately the same given that they all are in the same very small geographical area?
A: Yes, sir.
Q: Okay. So, what would work with one should work with the others, correct?
A: Yes, sir.
MR. HIGHTOWER: One moment. No further questions, Your Honor.
THE COURT: Re-Cross on that?
MR. GUILD: I have nothing further, Your Honor. Thank you. Thank you, Mr. Mosley.

THE COURT: 2:53. I'm trying to decide if we need to take a break or move on.

MR. MUSTIAN: Well, if I can just take three minutes of the Court's time before we take a break. Your Honor, in the interest of time, we -- our only two additional witnesses were potentially going to be Mr. Heath Coggins and Mr. Jim Young. I talked with Ms. Taylor yesterday. My intent would be to put them on the stand for the limited purpose of having them dot the same -- or acknowledge that they would provide the same waivers related to the 900-foot setback with the hunting rifle issue, as Mr. Coggins did, that they would -- to the same extent that he would agree to the waiver, that they would do the same thing.

THE COURT: Well, you can stipulate to that as their attorney.

MR. MUSTIAN: And I agree. And I just wanted to make sure that's clear. I believe Ms. Taylor had stipulated that that would be reflected without having to put them on the stand. So, I just wanted to make that clear for the record.

MS. TAYLOR: I just accepted the stipulation.

THE COURT: Yeah. I was going to say, are you

stipulating to the stipulation?

MR. MUSTIAN: I really just wanted to -- and I'm sorry. I just wanted to put it on the record. But, Your Honor, with that, we have no further witness. But I would appreciate a brief break.

THE COURT: Okay. You get a break just for the reward.

(Off the Record)

MR. MUSTIAN: Your Honor, I apologize. We're working out some issues. If Your Honor would be willing to give us an additional 10 minutes to 15 minutes.

THE COURT: Yeah.

MR. MUSTIAN: Thank you, Your Honor.

(Off the Record)

MR. MUSTIAN: We rest.

THE COURT: All right. Mr. Hightower.

MR. HIGHTOWER: Thank you, Your Honor. The Department calls William Chaplin.

WILLIAM CHAPLIN, having been duly sworn, testifies as follows:

COURT REPORTER: Please state your full name for the record.

THE WITNESS: William Preston Chaplin, C-H-A-P-L-I-N.

THE COURT: Mr. Chaplin, you look a lot better than

you did yesterday with that hideous tie.

THE WITNESS: It was a busy tie, wasn't it, Your Honor? I dressed down today and put on a suit.

THE COURT: Doesn't have all those paws on it.

THE WITNESS: I apologize if I offended you in any way.

THE COURT: No, no. I have a bunch of Clemson people that work all around ---

THE WITNESS: It's a good year to be a Tiger.

THE COURT: --- that I have to deal with at the office.

MR. CHAPLIN - DIRECT EXAMINATION BY MR. HIGHTOWER:

Q: Good afternoon, Mr. Chaplin.

A: Good afternoon.

Q: You're employed by DHEC, correct?

A: Yes, sir.

Q: How long have you been employed by the Department?

A: Since 1994.

Q: And when you first came on, what program or programs did you work in?

A: Worked for environmental health. We did restaurant inspection. My main job was septic tank application permits. Did foster home and daycare inspections for DSS. They farmed that

out to us. And rabies and also carried a category 8 pesticide permit for mosquito control.

Q: Did there come a time that you started working in agricultural permitting?

A: Yes, sir.

Q: And when was that?

A: 2006.

Q: Okay. And where are you currently working?

A: The agriculture permitting program.

Q: Okay. Now, do you hold the same title -- or I should say, in that approximate nine to ten years, have you held the same title?

A: I started out as a permit reviewer. And after about two years they created a section and I applied for the section manager position and I got that. After that, about six to eight months ago we did another reorganization and I was still left in as the section manager for agriculture permitting, but we created a new section and I now have a section manager boss. But I'm still the Program Manager I, is my job title.

Q: Okay. And in that approximate eight-year period of time that you were the section manager for

the agricultural permitting section, what duties did you have?

A: The main duties were to review permit application and plans for agriculture facilities.

Q: Did your duties also include being familiar with the Department's interpretations of the agricultural permitting regulations?

A: Yes.

Q: Okay. Did you ever teach any courses on this?

A: Did I ever teach any?

Q: Yes. On agricultural permitting in South Carolina.

A: No, sir.

Q: Okay. Did you conduct training?

A: I presented at CAFO Roundtable. That's ---

(Interruption)

THE COURT: Hold on a second.

(Off the record)

THE COURT: Go ahead.

THE WITNESS: Thank you, Your Honor.

A: I presented at a CAFO Roundtable, which is put on in conjunction with EPA and the American Clean Water Association about South Carolina's agricultural program at one of those CAFO

Roundtables.
Q: So, you -- so, would it be fair to say you're fully familiar with the agricultural permitting scheme in South Carolina?
A: Yes, sir.
Q: Okay. Now, you were the reviewer of the three applications in this case; isn't that correct?
A: Yes.
Q: Okay. And if you can, could you briefly explain how you first became involved with this case?
A: An applications came in and I have an additional permit reviewer now and we just decided that I would take these three. I had been dealing with Mr. Coggins in the past on previous sites. He had showed me a couple of sites that he was trying to determine whether or not they were going to be good sites and suitable sites. And at some point in time the application came in for this particular site for David Coggins, Heath Coggins, and Jim Young.
Q: Okay. What is a preliminary site inspection?
A: That's done by the region staff. They have a little checklist that they go by. I'm not sure if it was implemented at the time these preliminary site inspections were done. But

it's just basically going out to the site and with maps from the Applicant to determine whether -- you know, just the fact that the sites not in the middle of a swamp or have other properties or residences that may be too close to it to make it suitable.

Q: Do you know whether or not preliminary site inspections took place for the permits at issue?

A: They were.

Q: Okay. And how do you know that?

A: We used a review checklist that has a list of items that we go by based on requirements of 61-43.

Q: Okay. So, you're saying you noted it at the time you reviewed the application, correct?

A: Yes. We keep a -- preliminary site inspections come in and we keep a folder based on the county. And then when the management plan comes in, we pull that out and stick it with the file folder. We have a file drawer full of preliminary site inspections. They're only good for a year, so we have a drawer full of preliminary site inspections that have expired, so a lot of people that looked at sites and decided that they didn't want to build for one

reason or another.
Q: And I'm going to show you DHEC 924. Can you see that?
A: Yes.
Q: Okay. This is the second page of the application; is that not correct?
A: It is.
Q: Okay. Section 5, Facility Separation Distances. Okay. It has down "Required". Those distances, where do they come from?
A: They came from Agri-Waste Technology's application and review of the site.
Q: Okay. I didn't make myself so clear. With the -- where it says "Required", do those numbers correspond with something in the regulations?
A: Yes. Those are the setback requirements for facility over a half a million pounds of average live animal weight.
Q: Okay. And information -- and so, that would be found in 61-43 Part 200.80A; would that be correct?
A: I don't have a copy of the regs in front of me. Yes, that's correct.
Q: Okay. Now, when you get in an application, what

steps do you take?
A: The first thing we do is we enter it into the database, we create a file folder. From there, we create public notice signs, we public notice it on our website. And we wait 30 days to determine if there's any concern from the community to determine whether a public meeting needs to be conducted or not.
Q: And all those things that you just stated, are they regulatory requirements?
A: Yes.
Q: Am I correct they would be found in 61-43 Part 200.60?
A: Say that again.
Q: 200.60.
A: The public notice requirements, yes.
Q: Okay. And with the three applications, did you follow the procedure with all of them?
A: Yes, sir.
Q: Okay. Now, looking at Section 5 where it says "Actual", did you do anything to determine whether or not those numbers were correct or not?
A: Yes. We -- when I started doing this job, and after the first or either second case in front

of the Administrative Law Court, when I first started the job, we were putting a center-point mark in GIS to determine distances. After the first or second court case, I determined that we needed to be more exact, so we actually began drawing barns much like the maps in the management plan to depict where they are on the site so we can measure distances from the footprint of the barns. I measured -- we established where the barns need to go based on aerial maps and topo maps. So, we tried to put these barns as close as we can to where they're depicted in the management plan. And from there we take our measurements.

Q: Did you take measurements in this case?

A: I did.

Q: And what determination did you come -- or strike that. Based on your review -- strike that. Okay. You stated that you did the measurements. What tool, if any, did you use to make your measurements?

A: GIS, geographic information system.

Q: Okay. Is that something that the Department uses in the regular course of business in reviewing agricultural permits?

A: I think the Department uses that for just about everything they do.
Q: Okay. And so, you used GIS to look at the numbers that were -- or I should say, the distances provided in the applications, correct?
A: I did.
Q: Okay. Regarding -- and this one up here is David Coggins Broilers. What conclusion did you draw as to the accuracy of the actual numbers?
A: I found them to be accurate.
Q: Okay. With regard to Heath Coggins Broilers, did you -- do you remember finding that they were also accurate or did you find that they were inaccurate?
A: There was one or two numbers during my review and they showed crossed-out pages of the application. There was one or two numbers that I had concerns about and Agri-Waste sent in corrected pages.
Q: So, when you used GIS, if you found that there was something wrong or you had a concern with the distance, you notified the engineering consultant about that; isn't that correct?
A: Yes, it is.
Q: And did they correct it?

A: Yes, they did.
Q: Okay. So, pages that do not have Xs, would it be fair to say that that reflects accurate information?
A: Yes, sir.
Q: Okay. And finally with Jim Young Broilers, did you also use GIS to verify the distances found in his management plan?
A: Yes.
Q: And did you find any discrepancies? And if you did, were they correct?
A: As I mentioned, earlier there were one or two. And I can't remember the specifics without having my files in front of me. And this is the first court case I've gone to without my file because there would be three of them and that was a lot to carry around, but nothing considered to what the lawyers are carrying around. But there was one or two. And I can't remember which ones it was, but the concerns I had about distances were corrected by Agri-Waste Technology.
Q: And, again, with Jim Young Broilers, if we find a page that does not have a line through it, is it accurate to say that the information on that

page with regard to distances is correct?
A: Yes.
Q: Okay. You stated you have a -- you used a review checklist.
A: I did.
Q: You did. Okay. And you used it with each one of the applications?
A: Yes.
Q: Okay. And what is the purpose of the checklist?
A: It allows us to go down through the management plan and the application to do a comprehensive review to determine that the site meets the setbacks as set forth in 61-43.
Q: Okay. So, with regard to the checklist for David Coggins Broilers, which was DHEC 899 through 910, who prepared that document?
A: I did.
Q: Okay. Now, looking at DHEC 901, it talks about Administrative Review. You see that?
A: Yes.
Q: What is the Administrative Review?
A: That's done by a separate individual. And they make sure that, number one, that we got the check, that the application's filled out. And the rest -- we also -- the Administrative Review

also generates the public notice signs and also sends a couple of memos out through the Department.

Q: These memos, who would they go to?

A: One goes to the Bureau of Air Quality. And the other goes to the Bureau of Environmental Health Services for the groundwater review.

Q: Okay. And what type of information are you trying to get in those memos?

A: I'm trying to rely on my other departments within DHEC to provide me the expertise that I don't have.

Q: Do the regulations, 61-43, establish criteria, the minimum criteria for what needs to be in a management plan?

A: Yes.

Q: I believe it would be 61-43 part 200.50, I believe it's B. Do you see that?

A: Permit Application Procedures? Did you say 50?

Q: 200.50. And I think it's B, section B. You're in 100.

A: Correct.

Q: Okay. And the first item says you have to have a completed application form, correct?

A: That's right.

Q: And you received that from -- with regard to the three applications, correct?
A: Yes.
Q: Okay. Then it talks about what information must be contained in an animal management plan; isn't that correct?
A: Yes, sir.
Q: Okay. Looking through section B, does it state anywhere there that you need grading -- information regarding grading or stormwater curves or anything like that?
A: No, sir.
Q: Okay. But it does go into, if you're going to land apply, it says what type of information you have to have; would that not be correct?
A: Correct.
Q: Okay. All right. I note in looking at the Administrative Review section, it talks about receiving greater than 50 comments. What does that notation refer to?
A: They refer to the number of comments that we received either by mail or e-mail concerning these applications.
Q: What, if any -- well, what is the importance of noting how many comments you've received?

A: It above 20 triggers a pubic meeting.
Q: Okay. Were public meetings held with regard to these three applications?
A: We had two public meetings and we discussed five applications at these two public meetings.
Q: These three and then two others, correct?
A: That's correct.
Q: Okay. And the public meetings, how did the public find out about that?
A: The -- I think Ms. Mary Basel actually even called me prior to us receiving an application because she had heard that there was going to be some poultry houses built across Lisbon Road from her property. So, I actually got a call from Ms. Basel prior to even receiving an application. So, even before we put up signs, there seemed to be some buzz going on in the community about these applications.
Q: So, did the Department -- what steps, if any, did the Department take to notify the public that there was a meeting and how they could attend?
A: We -- anybody that writes in, we send them a letter stating when and where the public meeting will be held. Kind of send them an invitation.

Q: Okay. And was that done in each of these three cases?
A: Yes.
Q: And you stated the meeting was actually held, correct?
A: It was the Mountville Fire Department.
Q: Okay. And at that meeting or any time during your review, did you receive any comments from the public?
A: We received a lot of comments and questions during the meeting and after the meeting, handed in at the meeting, submitted afterwards in e-mails and also through US postal service.
Q: Okay. What, if anything, did the Department do with those comments?
A: I acted on a couple and we did our best to answer all the questions that were submitted to the Department concerning these facilities.
Q: And Regulation 61-43 part 200.60 sets forth some requirements that the Department's supposed to do with regard to comments; isn't that correct?
A: Yes.
Q: And one of those requirements is is that, if a comment is applicable, that the Department must consider it; is that not correct?

A: It does.
Q: Did you, as a reviewer of the applications, consider the comments that were provided to you that were applicable?
A: I did.
Q: I'm looking at 902, DHEC 902, which, I believe, is the third -- well, it's actually the second page of the review checklist.
MR. HIGHTOWER: Do you need see that?
Q: Okay. It talks about point source discharges. What is your understanding about a point source discharge?
A: Point source discharges require a specific conveyance to waters of the state.
Q: And when you say conveyance, what do you mean?
A: Way to get the pollution from the source that's generating it into a water body of the state of South Carolina.
Q: Okay. So, like a pipe or a culvert or something like that?
A: Yes.
Q: Okay. And so, it appears you listed discharges both upstream and downstream; is that not correct?
A: That is correct.

Q: Okay. And ---
A: Those are the closest to the facility. There are more upstream and downstream than what's indicated on this. That was the closest to the proposed site.
Q: All right. Okay. Based on this, you determined that there didn't need to be any additional setbacks. Why was that?
A: These facilities, ag facilities, poultry houses, turkey barns, dairies, swine facilities in the state of South Carolina are required to not be allowed to discharge into waters of the state.
Q: Okay. When you say discharge into the waters of the state, discharge what? What is ---
A: A pollutant.
Q: Well, okay, a pollutant. What type of pollutant?
A: This facility whatever it's generated.
Q: Okay. Is the pollutant for a facility, one of these facilities, would sediment be a pollutant, considered a pollutant that's being discharged by one of these facilities?
A: One of the three?
Q: No. By any of the -- right now we're talking about ---

A: Oh, no. No. The vermiculite plant, that's probably just some water that's running off. And the Newberry Water Treatment Plant, that's going to be the wastewater for wherever they're picking it up from.
Q: Okay.
A: The city of Newberry or -- I think it's pretty rural in itself.
Q: If you note that there's any agricultural facility, what would be the discharge if there is a discharge?
A: There shouldn't be a discharge. That would be a violation of 61-43.
Q: Okay. And what is the -- okay. You mentioned that -- with regard to water quality monitoring stations, you listed there's none upstream. Is that -- do you see that?
A: That's correct.
Q: Okay. And you list some downstream.
A: I list one, S-305.
Q: Do you remember hearing any testimony from Dr. Hargett concerning what he considered the closest water quality monitoring station to the 250-acre site that these three parcels are proposed to be placed on?

A: Yes, I did.
Q: Okay. And do you remember hearing that he thought that the monitoring station that you picked was too far away, there was one closer than, I think it is 305?
A: Yes, I remember hearing that testimony.
Q: Did you make an error in putting down what was the nearest downstream water quality monitoring site?
A: No, sir.
Q: Okay. Why didn't you make a mistake?
A: The other sites that he was referring to are inactive sites.
Q: Okay. So, when he was referring -- when he was being shown the map from the 2004 TMDL, is it your testimony that some of those water quality monitoring sites that were shown at that time are no longer active?
A: That's correct.
Q: Okay. So, just to make sure, DHEC 903, when it talks about pulling the 303(d) list, did you consult the 303(d) list with regard to these applications?
A: I did. We looked at the 2014 303(d) list. And the nearest site the is S-305.

Q: Okay. And the 303(d) List, what is that list?
A: Impaired waterbody list.
Q: And we had heard testimony in this case that there's an actual approved TMDL for the Little River, which was issued in 2004. Do you remember hearing that?
A: Yes, sir.
Q: Okay. Did you consider that TMDL in your review?
A: I did. The first time I ran into a TMDL while doing a review, I walked down the hall and spoke to a watershed manager because ---
Q: I was just anticipating. Don't tell us what that person told you. But, if you can, based on the information that you received from discussing with other DHEC staff members, what conclusions did you come up with as to whether or not these facilities would somehow either impact the 303(d) waters or you needed to provide greater setbacks or something else?
A: The -- it was noted on here that the ag facilities are not contributors to the TMDL, so I did not require any additional setbacks.
Q: When you note that, is that your understanding as to how the Department views agricultural

facilities with regard to TMDLs?
A: Yes, sir.
Q: Okay. Two of these facilities use a manure broker, David Coggins Broilers and Heath Coggins Broilers; is that not correct?
A: All three use a manure broker, but Mr. Young has family land in his plan that he's going to utilize some of his manure for land application.
Q: Okay. So, when a facility uses a manure broker, who becomes responsible for the proper disposal, if you will, of that manure once the manure's taken out of the barns and put on trucks or whatever?
A: It belongs to the broker at that time.
Q: Does the Department have any way of maintaining any -- some type of oversight about manure that is handled by brokers?
A: We do require annual reporting of manure brokers.
Q: So, in this case there's L&M brokers, correct?
A: Yes.
Q: And so, annually they have to provide -- if I understand you correctly, they have to provide documentation to the Department regarding their manure broker operation; is that correct?

A: They do.
Q: Okay. Do you personally handle matters with regard to the proper operation, if you will, by manure brokers?
A: Can I have just a second please?
Q: Yes.
A: I think I misspoke and I just wanted to make sure that what I verify what I said is correct.
Q: Okay. Let me know when you're ready.
A: Going back to annual reporting for the manure brokers, I'm not sure that that's correct that they have to report every year.
Q: Okay.
A: But they're required to provide their records upon inspection.
Q: Okay. Is it fair to say that there are regulations specific to the permitting and operation of manure brokers?
A: Yes. That's Part 400.
Q: Part 400. Okay. And is it correct that the Department has staff whose job it is is to look at compliance issues and possibly enforcement issues with regard to manure brokers?
A: Yes.
Q: Okay. Is it your job duty to look at compliance

issues and/or enforcement issues with regard to manure brokers?

A: No.

Q: You stated that you -- that as part of the administrative review, memos went out to the Bureau of Environmental Health Services and to the Bureau of Air Quality; is that correct?

A: Yes.

Q: Okay. With regard to the Bureau of Environmental Health Services, what information did you receive back from that Department?

A: They review to determine whether the proposed burial sites are suitable for dead animal disposal.

Q: Okay. With regard to -- memos were sent out with regard to all three facilities, correct?

A: Yes.

Q: Okay. With regard to David Coggins Broilers, what information did you receive regarding the suitability of the site for the burial of bird mortality?

A: That the site was suitable.

Q: And with regard to Heath Coggins Broilers, what information did you receive?

A: The site was suitable.

Q: Okay. And then finally with regard to Jim Young's Broilers?
A: The site was also suitable.
Q: Okay. Okay. With regard to the Bureau of Air Quality, did you also receive information back from that bureau?
A: I did.
Q: And what did you -- what information did they provide you?
A: They provided me with a statement that said that they did not anticipate any increase in air pollution from this facility and therefore didn't recommend any additional setbacks or requirements for the permit.
Q: Did you review the odor abatement and vector abatement plans for each of these facilities?
A: Yes, sir.
Q: And what conclusion did you draw about the adequacy of those plans?
A: I found them to be using best management practices for -- to eliminate odor and vectors, to limit the amount of odors leaving the facility and the amount of vectors that may be present or drawn to the site.
Q: It's my understanding that the reason why the

Department considers these no-discharge permits, beside the fact that it states that in the recommendation, is that, as part of their operations, they don't discharge manure into waters of the state as a way of disposal?

A: That's correct.

Q: Is it --

MR. HIGHTOWER: One moment, Your Honor. Sorry about that, Your Honor.

Q: Mr. Chaplin, you've been present through the proceedings in these cases, correct?

A: Many times.

Q: Well, I'm talking specifically about these cases. So, you've been here since Tuesday, correct?

A: Oh, yeah.

Q: Okay. And you've heard some of the concerns of the Petitioners, specifically concerns about stormwater and such. How does the Department treat stormwater with regard to agricultural facilities?

A: A stormwater permit is required prior to construct of any agricultural facility.

Q: Okay. I'm showing you this document. Are you familiar with this document?

A: Yes, I am.
Q: And how are you familiar with this document?
A: Excuse me. I didn't hear that.
Q: How are you familiar with this document?
A: I put it in every permit that I issue that I mail to the Applicant.
Q: Okay. And what is this document about? Well, first for the Court, could you state -- what is the name of the document?
A: It says New Compliance Requirements for South Carolina SC DHEC Storm Water Permits.
Q: Now, with regard to these permits, you said you placed this document, which is -- it's an official document of the Department; is that not correct?
A: Yes.
Q: Okay. And you send it to the, I should say applicants or I guess new permittees for what purpose?
A: To make them aware that they require to get a stormwater permit plan for grading the site for construction.
Q: Okay. All right. And it does go into matters such as cost of the plans and everything else, correct?

A: It does.
Q: Okay. Now, I'm going to show you DHEC page, I think it's nine -- hang on a second. Excuse me, 997. I knew it was a double number somewhere. Okay. Do you see where it says Critical Area Planting?
A: Yes.
Q: Okay. What is that section about?
A: States, Establish permanent vegetation on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.
Q: Okay. So, as part of the management plan, it's saying that the Applicant will be establishing permanent vegetation on the sites that have any expectation of high erosion rates. Would that be a fair restatement of what you just stated?
A: Yes, sir.
Q: Okay. And then underneath it it gives a plan for establishing vegetation; isn't that correct?
A: That's for getting the grass established to eliminate erosion around the barns during rain events.

Q: And this is in the comprehensive nutrient management plan. The permits that have been issued, is it not correct that one of the requirements is is that an applicant must comply with all of the items specified in the comprehensive nutrient management plan, that is i.e. something that's not crossed out.

A: Correct.

Q: Is that not correct?

A: Yes, sir.

Q: So, that means this is part of the permit, correct?

A: It is.

Q: And the Department, if someone is found not to be following this, they could take steps such as enforcement, correct?

A: Yes, sir.

Q: Okay. Because that would be a violation of their permit, correct?

A: It would be.

MR. HIGHTOWER: Beg your indulgence, Your Honor. I just want to make sure that I've covered everything I need to.

Q: Okay. Mr. Chaplin, the placement of the barns, we saw maps that both the Petitioners and

Mr. Mustian had shown where the locations of the barns changed from what was originally submitted to the Department; is that not correct?

A: That is correct.

Q: Do you know why the barns were moved?

A: That was a request made by Mary Basel. She wanted me to try to move the barns back from Lisbon Road to try to meet the 1,000-foot setback residential requirement for their septic tank permit that they had received.

Q: Now, the regulations, the siting regulations in 61-43 Part 200.80A give a separation distance of 1,000 feet from a residence; is that not correct?

A: That is correct.

Q: And residence is a defined term in the regulation. And generally it states that it's a place where someone comes back to every day and I think it talks about being there for 12 hours a day unless there's someone under 18 in the house or something like that.

A: A residence means a permanent inhabited dwelling, any existing church, school, hospital, or any other structure which is routinely occupied by the same person or persons more than

twelve hours per day or by the same person or persons under the age of eighteen for more than two hours per day, except those owned by the Applicant.

Q: Okay. Are there currently any structures along Lisbon Road across from where these three facilities are going to be located?

A: There is one structure. I don't know if it was Mary or Margaret referred to it as their like little camp house or whatever, their hunting lodge. I'm not sure exactly how they refer to it. But it is -- but it's near South Carolina 72. It's more directly across from the property owned by Ross Stewart, if I'm not correct.

Q: And is that --

A: Or if I'm correct.

Q: That one structure, how far away is it from, I guess, Jim Young Broilers, which would be the closest facility, if you know? Or let me put it this way. Is it located more than 1,000 feet from Jim Young Broilers?

A: Yes.

Q: And Jim Young Broilers is the closest facility to Highway 72; isn't that correct?

A: It is.

Q: Okay. So, when you made that accommodation, it's not a requirement; is that not correct?
A: It's not.
Q: So, if the barns had to be moved, you could move them back closer to Lisbon Road so that any issues that may come up with regard to stormwater, if you will, could be addressed; isn't that correct?
A: Yes, sir.
THE COURT: The person you said that was requesting you to move the facility further away ---
THE WITNESS: I'm sorry?
THE COURT: --- is that one of the Petitioners in this case?
THE WITNESS: Yes. Mary Basel requested that I ---
THE COURT: I just wanted to know ---
THE WITNESS: Yes, sir. I'm hard of hearing, so that's why ...
THE COURT: Okay.
Q: Just a few more questions and then we'll be finished, at least from my part. Mr. Chaplin, with regard to the barns, if you had moved the barns back closer to Lisbon Road, is there any DHEC -- or, excuse me, is there any regulatory reason -- or is there any regulatory requirement

that would have to be changed?
A: The 400-foot property line setback would need to be met from Lisbon Road.
Q: Okay. Is there any requirements in the regulations that the vegetative buffer has to be the same distance or I should I say the same thickness, if you will, as the property line setback?
A: No, sir.
Q: Okay. So, if the Court had to change -- let us say, if the Court decided that, to provide extra protection for Little River, that the facilities should be moved close to Lisbon Road, if you had to shorten slightly the vegetative buffer from let's say 400 feet to let's say maybe 300 feet, there's no regulatory reason why the Court could not do that. Is that an accurate statement?
A: As long at the footprint of the barns did not encroach on the 400-foot property line setback.
MR. HIGHTOWER: At this time, Your Honor ---
THE COURT: Well, what is it?
THE WITNESS: The barns have to meet a 400-foot property line setback. The load-in area is on the Lisbon Road end of the barns. So, what I did, Your Honor, was I required the Applicant

and through AWT to move the barns so as to leave the entire 400-foot property line setback vegetated as is. So, that meant they had to move them -- to get that load out area past that 400-foot property line setback, that load-out area is usually 150 feet. So, that's why I said, leave the 400-foot property line setback vegetated. I learned that in a case that went in front of the Board. So, I've been trying to incorporate the property line setbacks in all my permits where I can do that. In this case, with the request of Mary Basel, I moved those barns back as far as they could go and meet the setbacks on the other end, the Little River end and leave the 400-foot property line setback vegetated. In other words, the original plan had the barns up against the 400-foot property line setback, meaning the load-in/load-out area that's closest to Lisbon Road would have been inside that 400-foot property line setback, which is okay, just as long as the barns aren't in that 400-foot property line setback. So, that's why I made them move them back about 150 to 200 feet so that load-in/load-out area would not be -- would not disturb the property line

setback as its vegetated now.

THE COURT: Well, can we move it back up to where it was originally placed?

THE WITNESS: Absolutely. I did that -- we had public meetings to get input from citizens. And one of -- some of the input I go -- a lot of the input I got was for Mary and Margaret. And that was one of their requests they made of me was to move the barns as far as they could from the hunting property and where they had the septic tank sites evaluated to try to meet the 1,000 foot setback. Well, I moved them back as far as I could meet the setbacks on the backside, but I could not meet the 1,000-foot setback from the septic tank approval sites.

THE COURT: Okay.

Q: Now, you did state that you had learned it from a case that went before the Board. In that case did the Board direct that for all future permits that the Department had to have a vegetated property line buffer?

A: No, sir.

Q: Okay. Is it not correct that that was a negotiated settlement of that particular case that the Board approved?

A: That was.
Q: Okay. So -- strike that.?
MR. HIGHTOWER: At this time, Your Honor, the Department moves to have the new compliance requirements for SC DHEC stormwater permits admitted into evidence as Petitioner -- excuse me, Respondent-DHEC Exhibit a.
THE COURT: Mr. Mustian?
MR. MUSTIAN: No objection, Your Honor.
MS. TAYLOR: No objection.
THE COURT: It's admitted.
MR. HIGHTOWER: Thank you.
(Respondent-DHEC's Exhibit Number 1 was marked and admitted into the record.)
MR. HIGHTOWER: No further questions, Your Honor.
MR. MUSTIAN: No questions, Your Honor.
MS. TAYLOR: Just one moment.
MR. CHAPLIN - CROSS EXAMINATION BY MS. TAYLOR:
Q: Mr. Chaplin.
A: Good afternoon.
Q: Good afternoon. I'll try not to keep you up here too long.
A: That'd be great. Then we can all go home today.
Q: Just give me a moment here to get my papers out of -- Mr. Chaplin, you had testified previously

about the Little River TMDL in, I believe it was, station 34 that was raised by Petitioners' expert. And you testified just a few minutes ago that station 34 is inactive. Am I correct in my recollection?

A: That's correct, 34 is not active.

Q: And what does inactive means exactly?

A: That means it's not longer sampled.

Q: But doesn't that still mean that there are existing water quality data dealing with fecal bacteria for that station?

A: If it is, it would be old and out of date.

Q: If it was found in a recent publication by DHEC from 2011, wouldn't that indicate that it's not obsolete?

A: I'm not sure about that. I'm not a watershed manager.

Q: But if it was found in a DHEC document from 2011 as a water quality indicator, wouldn't that indicate that there is still some usefulness to that data?

A: I don't know the answer to that question. I'm not a watershed manager. I can only speak to the fact that when I reviewed the application, the only active site in the watershed was S-305.

And it was in the lower end of that watershed.
Q: But station 34 still has and been identified within this TMDL as an impaired site, correct?
A: At one time it was.
Q: Do you have any reason to believe that it's no longer impaired?
A: That site is right next to the Laurens County wastewater treatment facility, so it's usually probably going to be the most impaired site on that watershed.
Q: I thought you just said you weren't a watershed manager.
A: I'm not, but I've looked at the data on the -- from the watershed -- 2004 watershed report. I've read that data and I know it is the closest one to the Laurens wastewater treatment facility and it is the most polluted on that watershed.
Q: But that doesn't mean that there's no other sources of pollution; is that correct?
A: I'm not sure about that.
Q: You're not sure about what?
A: That there are other sources of pollution that contributed ---
Q: You can't say one way or the other, can you?
A: I don't know.

Q: You also stated, dealing with this Little River TMDL, that the Department -- you walked down the hall to talk to your watershed folks within DHEC and were informed that there's no need anymore to consider agricultural animal permits as any contributor to impairment of waters in the state of South Carolina. Did I state that correctly?

A: I think you did. That was pretty much a summation of what I've got from the watershed manager.

Q: And the reasoning for that is because of DHEC's position that these regulations impose a no-discharge standard, therefore there is no discharge, correct?

A: That's correct.

Q: Well, what about -- I'm going to show some examples of what we have identified as 2E, which is some operation and maintenance checklists. This one says manure was found uncovered and needed to prevent possible runoff problems.

A: Can you zoom out so I can take a look at this document? No, zoom out on the ---

Q: Oh, zoom out. Oh, I'm sorry.

A: No problem.

Q: Wouldn't that contradict your watershed

manager's thinking?
A: Uncovered manure is a violation of the regulation and should be subject to enforcement action.
Q: Yeah. But I thought I just heard you say, Mr. Chaplin, that there's just no need to have any sort of consideration of animal ag permits within a TMDL because this doesn't happen. I mean, isn't this -- doesn't this show that there are, in fact, issues related to unexposed manure piles? Isn't DHEC just putting its head in the sand?
A: I think the watershed document states that as if the facility is operated properly, that these facilities are out of compliance.
Q: Well, isn't it true, Mr. Chaplin, that the current regulations allow -- here's a good one. That the current regulations allow an uncovered pile of manure for three days and that still is considered to be no-discharge and there's no violation of the permit.
A: That's correct.
Q: Mr. Hightower had asked you some questions about the completeness of the permit application. I believe he was referring to the regulation --

where's my --

MS. TAYLOR: Indulge me for a moment. I believe it's 200.50 permit -- no.

THE COURT: 50 is Permit Application Procedures.

MS. TAYLOR: I'm looking for -- I know it's right in front of me. I can't even see it.

Q: The regulation that states what is needed in an application.

A: 200.70. It's on page 60.

Q: No. It's not 70. Those are application procedures. Oh, yeah, you're right. I'm sorry. Okay. Talking about how -- Mr. Hightower had asked you whether or not you had received all reports and other components of the application in order to proceed with review of the permits for each of these facilities; am I correct?

A: Yes, ma'am.

Q: On -- what I have here on the screen, if you look at the top, it says the permission is granted to Mr. Coggins -- I'm assuming all these letters are the same for Mr. Young and Mr. Heath Coggins. Operation and construction of a no-discharge permit in accordance with construction plans, specifications, engineering report, animal facility management plan, and

construction permit application prepared by Chris Mosley.

A: Yes, ma'am.

Q: The information I received from DHEC did not include a construction permit application, nor was there an engineering report, other than what might be construed as an animal facility management plan nor are there other construction plans. Where are those documents?

A: We don't review construction plans for agricultural houses.

Q: So, can you tell me why this approval letter mentions -- this is permission granted for construction operation of a permit in accordance with things that don't exist?

A: They have to have some kind of building plans to get a building permit in order for them to construct the houses. They're just not going to go out there with a truckload of lumber and build some houses in the middle of the woods. So, they're going to have to have a stormwater permit, they're going to have to get a building permit from the county at which time they're going to have to submit construction plans to the county to obtain that building permit. And

I think that's what all this is referring to.
Q: Well, that seems to be referring to the second page, especially permission four, you're responsible for obtaining any other local permits that may be required for this project, including a building permit and a stormwater permit. What I'm talking about here is the construction plans, specifications, engineering report, animal facility management plan, a construction permit application. Where are those?
A: They're not included with the CNMP.
Q: Mr. Hightower had handed out -- I'll just put the front page here. New compliance requirements for DHEC stormwater permit.
A: Yes, ma'am.
Q: Do you recall this document?
A: Yes.
Q: Do you still have it with you over there? I can just ---
A: That's all right. I'm good.
Q: You got it?
A: Yes, ma'am.
Q: At the very end of the last page it says, what do I do when construction is complete. After

construction is complete on this site, the site must be stabilized to its efficient stand of vegetation, submit a notice of termination.. So, am I right in that this stormwater construction permit only applies to the construction phase and not any subsequent operation of the facility?

A: I do not work for the stormwater section, so I just -- this document was supplied to me to give to the permittee, so they would understand what's required of them from a stormwater perspective, that they were required to get a stormwater permit.

Q: But don't you -- do you believe your own -- your colleagues in this statement? Do you have any reason to disbelieve this statement here made by -- it's got a letterhead at the top, DHEC.

A: That's what it says; you must submit a notice of termination.

Q: Is it your position -- well, is it not your position that a poultry farm -- any agricultural facility subject to part 200 and they receive a permit that is described as no-discharge, then they just are automatically deemed to be never discharging?

A: They shouldn't be discharging if they follow the regulations in their management plan. Anything outside of that is a violation of the regulation and subject to enforcement action.

Q: You stated in your deposition dated June 21st, 2017 in Columbia, I asked you, Are you saying that there is never a situation in which a discharge could occur if these regs are complied with? And your answer was, Correct. Do you deny making that statement?

A: No.

Q: When you were evaluating on your checklist the slope, if you recall on 200.70F7. And I'm going to start reciting these in my sleep here. Did you, yourself physically walk the property to determine the slope in each of these?

A: No, ma'am.

Q: On this same regulation, I'm looking at F11, down-wind receptors, which is one of 12 factors that the Department shall evaluate the proposed site, including but not limited to the following factors. Isn't it true that you interpret down-wind receptors to have nothing to do with odor?

A: I don't make that determination. The Bureau of

Air Quality make's that determination. I rely on their expertise.

Q: In the deposition that I took, the same day, same location, I asked you, Do you consider down-wind receptors to relate to odors? And your answer was, No. And I asked you, What is your reasoning for your answer? And you stated, Down-wind receptor is something that evaluates a pollutant. What does that mean?

A: Based on previous Administrative Law Court cases, the Bureau of Air quality determines that down -- has their own definition for down-wind receptors. And it deals with pollutants, the down-wind receptors had to do with a pollutant. And odor is not a pollutant. It's not regulated, it's not measured. That was what I meant by that statement.

Q: And is the term down-wind receptors defined within Regulation 61-43?

A: No, it is not.

MS. TAYLOR: Indulge me for a moment. I thought I had this already up here. I seem to be missing a page. Can I just take a quick break so I can find this -- another copy that has the pages I'm looking for?

THE COURT: Are you looking for part 50?

MS. TAYLOR: No. I'm looking for a page in my exhibit. I'll move on.

Q: Under these 200.70F, the setback requirements, The Department shall evaluate the proposed site including, but not limited to, the following factors, wouldn't that enable or provide DHEC the authority to take into consideration the statute dealing with forbidding a setback of 900 feet from a poultry house for people firing a gun?

A: That would include other laws that may not be a part of 61-43.

Q: Didn't the staff position for each of these facilities negate what you just said? You just contradicted your staff position? So, you're now agreeing that that statute is an appropriate consideration ---

A: I was not aware of that statute at the time of the evaluation.

Q: And now you are?

A: Oh, I've been aware of it for a while now. That probably came up at the public meeting.

Q: At that public meeting -- I think there was some testimony earlier about the photos that Kathy

Lowman took of the Alexander facility.
A: Yes, ma'am.
Q: Do you remember seeing those photos?
A: I remember seeing those photos in this courtroom and at the public meeting.
Q: What did you do about those photos when you first saw them at the public meeting?
A: I was really kind of -- you know, didn't sit well with me because I don't like people flaunting regulations like they were being at the time with the facility across the street. I was really taken aback by what I saw. And the first question I asked Ms. Lowman was -- because they were rather old photographs. They were four or five years old, if I recall correctly. And my first response was, Did you call anybody about this? And it was my recollection at the time that she said no. Now, I heard her testimony said that she did make a call and talk to Chrissy Matthews. But she made one call at one time, but yet she continued to take multiple photographs of uncovered manure and neglected to follow up with the Department because I think we would have had Mr. Alexander in enforcement if she would have called a couple more times with

him continually violating the regulations.
Q: Why should it be the responsibility and the allegation of Ms. Lowman to continuously call DHEC? Isn't it the application and responsibility of DHEC to perform those follow-up visits?
A: She did perform a follow-up visit. And at the time the manure was covered.
Q: What do you want to -- wouldn't that be a red flag and for DHEC to do that? I don't understand why DHEC seems to want to blame folks who live in the Mountville area for problems with these facilities.
A: I'm not blaming the folks in the Mountville area for the problems of this facility. I'm blaming Mike Alexander for the problem of his facility. I'm just saying that Ms. Lowman kept observing uncovered manure and did not do anything about it other than take a bunch of pictures.
Q: I believe she testified that she did call.
A: She called one time.
Q: So, your complaint is that she just doesn't call every day or every week ---
A: No. I'm saying, she continued to observed the facility out of compliance and did nothing about

it. She did call one time and it was investigated. The lady, Chrissy Matthews from the region came back and found that Mr. Alexander had his manure covered. Now, that was ---

Q: But, again, Mr. ---

A: --- one instance with him being called on and then she goes back out and he's in compliance. Who knows whether he -- after she came and left, maybe he pulled it off and left it out there to get rained on. I don't know. But it remained a problem that the citizens of Mountville were aware of, but nobody seemed to care enough to call DHEC and complain about it again.

Q: You don't really know that, do you? Aren't you speculating?

A: No. Nobody called to complain about it. I asked her and she -- my recollection was that she said no. But she testified that she did call one time and Chrissy Matthews went out there and investigated. And I believe that.

Q: Well, let's get back to the responsibility of DHEC. Isn't it DHEC's responsibility to properly regulate these facilities?

A: It is.

Q: All right. Under 200.70E, which we're all familiar with by now, The Department shall act on permits to prevent, so far as reasonably possible considering relevant standards under state and federal laws, an increase in pollution of the waters and air of the State from any new or enlarged sources. Wouldn't new or enlarged sources include any poultry operation permit that's been issued under these regs since they were promulgated in 2002?

A: Yes, ma'am.

Q: So, if that's the case, don't you think that DHEC is obligated to not look at one particular permit such as Mr. Coggins in isolation from -- I'm sorry, Mr. David Coggins in isolation from Mr. Heath Coggins and in isolation from Mr. Young or even in isolation from other facilities that are located within a five-mile radius of Mountville or a five-mile radius of these existing facilities?

A: I didn't get the question on that one. I don't know that there was a question on that.

Q: I did ask a question. Maybe ---

THE COURT: There was one, but it was a very long one.

THE WITNESS: Thank you, Your Honor.

MS. TAYLOR: As Mr. Chaplin knows, I tend to ask long questions.

Q: But let me break this up.

A: All right.

Q: You already stated that E with the last phrase, any new or enlarged sources, what that means is any permit that has been issued under these regulations since that were enacted in, I believe, 2002, you are ---

A: Yes, ma'am.

Q: Agree with me on that, right?

A: Yes, ma'am.

Q: So, when you review, for example Mr. Young's permit, wouldn't section E require you to take action on that permit to prevent an increase in pollution of water and air from any of these existing -- the impact of these existing facilities?

A: Yes, ma'am.

Q: Did you do that?

A: Yes, ma'am.

Q: Where? I don't see that anywhere in your records.

A: Being a no-discharge facility, they don't -- we

don't consider them contributive to pollution to waters and the air of the state of South Carolina. So, that's where I deduce that from. With the new and enlarged facilities or sources, each of these individual permits were issued on their own, granted their own tract of land that they will be subdivided, provided the permits are upheld by the Court. So, that's my answer.

Q: So, all of these permits are deemed no-discharge, therefore there's never an increase in pollution? Am I hearing you right?

A: Yes.

Q: And so, if there are 50 existing poultry barns already permitted within the watershed, they have taken together there's no particular danger of any increase in water pollution?

A: You know, speaking of -- I looked at that watershed document from 2004. And at that time the biggest -- the further away you get from the Laurens wastewater treatment facility, the less polluted the water is. And the majority of the facilities we're referring to, as everybody talks about, the 50 facilities and the 5.5-mile radius, well, no, they're not 50 facilities in the 5.5-mile radius. There are 33 or 38,

depending on where you put the center point from Mountville. So, as you move further away from the wastewater treatment plant for Laurens, the water -- the water quality improved. Granted it's still in the TMDL, but it is less polluted the further you get and that wastewater treatment facility. And the further away you get from that wastewater treatment facility, the more ag facilities you find in that watershed. So, reasoning that ---

Q: So, you're saying it's less polluted just because there's not a pipe from the wastewater utility discharging in that particular segment you're talking about?

A: We were speaking over each other.

Q: I agree. Please finish your answer.

A: I finished my answer. What my point was, that the ag facilities are down near the lower end of the -- they're kind of in the middle of that watershed. And the further away you get from that wastewater treatment plant, the less polluted the water is and the more ag facilities you seem to run into.

Q: But the Little River is still impaired the entire watershed, am I right? That's what this

TMDL says, am I right?
A: In 2004, yes, ma'am.
Q: And this TMDL is still in effect, meaning that it doesn't matter if it's 2006, 2008 ---
A: It's my understanding that those never go away. Once they're created, they're TMDLs forever, so.
Q: Until you fix the problem, correct?
A: Until the water quality standards are met.
Q: Okay. If you wouldn't mind, I'd like you to read starting from here. I think there's be some contradiction as far as what the language is in this TMDL where it states here South Carolina DHEC.
A: Okay. I'll take over.
Q: And then read it all the way to here if you wouldn't mind, sir.
A: Okay. South Carolina DHEC also permits in the Little River watershed a number of animal feeding operations, which include in addition to swine and dairy cattle, broilers, layers, and turkeys. The facilities that are in the watershed are permitted to have at any time about 1.7 million birds. Several facilities are outside of the watershed but have one or more fields within the watershed. While not all of

the litter produced by these birds is applied to land in this watershed, there are 167 fields permitted for application of litter.

Q: And didn't your checklist for these facilities now increase the number of fields to 299?

A: I don't have my checklist in front of me.

Q: Would you -- if that's in the record as evidence, would you take whatever number is in there as the truth?

A: Yes, ma'am.

Q: All right. So, there was some previous testimony thinking that this TMDL only applied to land application and didn't have any reference to the production facilities themselves. Doesn't the statement that you just read contradict that?

A: I'm not sure of the question. Sorry.

Q: This TMDL references ---

A: Ask me your question again. I'm sorry.

Q: I'm just trying to clear up a point that I thought was confusing before where there was mention made implying that this TMDL had nothing really to do or didn't state that the poultry production areas, the facilities, the barns, the manure piles, the stacking sheds, the animal

mortality burial sites, all that was not included within the Little River TMDL. And isn't it true that what you just read states that it includes the production areas of poultry facilities; am I right?

A: It does.

MR. GUILD: Moment, Your Honor.

MS. TAYLOR: Can we take a short break? Like five minutes. I think I'm doing pretty well as far as time.

THE COURT: It's 4:55.

MS. TAYLOR: 5:00 o'clock? I won't be very much longer.

THE COURT: Okay.

(Off the Record)

MS. TAYLOR: Proceed, Your Honor?

THE COURT: Yeah.

MS. TAYLOR: Thank you for your indulgence.

Q: One last thing. I had mentioned earlier about the TMDL and you had testified that the site that Dr. Hargett had identified was inactive. What I'm showing you here on this laptop is the Saluda watershed assessment dated 2011. Isn't the Little River a part of the Saluda water -- I mean, Saluda River watershed?

A: Yes.
Q: Could you just read this highlighted portion here?
A: TMDLs were developed for SC DHEC and approved by EPA for the Little River and its tributary North Creek at water quality monitoring sites S-034, S-038, S-099, S-135, S-297, and S-305. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive and still meet water quality standards. There was one NPDES facilities permitted to discharge fecal coliform bacteria in the Little River watershed. Much of the watershed has been designated as part of one or more small MS4s. Possible sources of fecal coliform bacteria in this watershed are failing septic tanks, agricultural runoff, cattle-in-streams, and urban runoff. The TMDLs require reductions of 39 to 78% in fecal coliform loading for these streams to meet the recreational use standard.

MS. TAYLOR: Thank you. That's all I have.

THE COURT: Re-Direct?

MR. HIGHTOWER: Yes, Your Honor.

MR. CHAPLIN - RE-DIRECT EXAMINATION BY MR. HIGHTOWER:

Q: Mr. Chaplin, you were just asked to read from a

2001 document ---

MR. GUILD: It was 2011.

Q: Excuse me, 2011 document dealing with the Saluda River and the Little River as being one of those tributaries, correct?

A: Correct.

Q: Okay. What year did you look at -- strike that. In what year did you conduct the review for these agricultural facilities?

A: 2016.

Q: So, the fact that in 2011 you may have had certain water quality monitoring stations, do you believe that that means that five years later they would still necessarily be in operation?

A: We use the overlay and it gets updated every two years. So, we use 2014 overlay. And at that time the only station I found was the S-305 down at the bottom of the watershed to be inactive monitoring site.

Q: Okay. So, basically the most current information that you had was three years after this document, correct?

A: Yes, sir.

Q: Okay.

A: That would be five years.
Q: But the -- if I understood you correctly, you said the overlay was dated ---
A: 2014, correct.
Q: --- 2014.
A: That's right.
Q: Okay. Just wanted to make sure. One second. Okay. A discharge from a facility means -- strike that. Does a discharge from an animal facility mean that manure gets into water of the state? If you ---
A: Ask me that again.
Q: Okay. In order for there to be a discharge, does manure have to get to waters of the state?
A: Yes.
Q: So, if -- let's say it rains upon a pile of manure that's been out for, let's say, two days and it may be puddles right around that manure pile, but doesn't get to waters of the state. Is that a discharge?
A: No.
Q: Okay. And I believe -- I'm not sure if I had asked you or it was another witness, but isn't it correct that 61-43 part 200.140A specifically states that an operator is responsible to ensure

that there's no discharge to waters of the state, correct?

A: That's what 200.140A states, that there shall be no discharge of pollutants from the operation into surface waters of the State, including ephemeral and intermittent streams. There shall be no discharge of pollutants into the groundwater, which could cause groundwater quality not to comply with the groundwater standards established in South Carolina Regulation 61-68.

Q: Okay. And then isn't it true that the regulations also say that you cannot allow waters -- excuse me, no manure may be released from the premises of a facility into waters of the state absent a Clean Water Act Section 402 or 404 permit; isn't that true?

A: It says -- 200.140E states, No manure may be released from the premises of an animal facility to waters of the state, including ephemeral and intermittent streams, unless a permit pursuant to Section 402 or 404 of the Clean Water Act has been issued by the Department.

Q: Okay. You were asked about regulations 61-43, Part 200.70E and about the fact that the

Department is required to prevent an increase in pollution of the air and waters of the state, taking into account applicable standards under state and federal law from new or expanded sources, correct?

A: Yes.

Q: Okay. And you were saying about animal facilities as being a source. Regulation 61.43, Part 200 applies to basically any animal that is going to be commercially housed if it meets over certain thresholds, except for swine; isn't that correct?

A: 200 does not deal with swine. That is correct.

Q: So, it means dairy cows, let's say?

A: We do permit dairies under Part 200.

Q: And do dairy cows use manure storage devices such as a lagoon as part of their waste -- their manure handling system?

A: Yes. Lagoon's a common practices for dairies.

Q: Okay. And a lagoon, because you have water in it and you have manure, you would get the production of hydrogen sulfite; isn't that correct?

A: That's my understanding.

Q: Okay. And isn't hydrogen sulfite a regulated

air pollutant in the state of South Carolina?
A: It is.
Q: Okay. So, that's an example of new source where you would have to take into account other sources that may cause an exceedance of an existing standard; isn't that correct?
A: Yes, sir.
Q: Okay. With regard to poultry facilities, is there any regulated air pollutant admitted by a poultry facility?
A: Not to my knowledge.
Q: Okay. In fact, isn't that what the Bureau of Air Quality told you with regard to these facilities?
A: Yes.
MR. HIGHTOWER: One moment, Your Honor. No further questions.
THE COURT: Mr. Mustian?
MR. MUSTIAN: Oh, I'm sorry. No questions, Your Honor.
THE COURT: New issues raised.
MS. TAYLOR: No questions.
THE COURT: You may step down.
THE WITNESS: Thank you, Your Honor.
MR. HIGHTOWER: At this time, Your Honor, the

Department rests its case.

THE COURT: Okay.

MR. HIGHTOWER: We got through in three days.

THE COURT: Well, any rebuttal?

MS. TAYLOR: We would just like to waive closing argument in lieu of submittal of proposed orders.

THE COURT: I would like to discuss one matter with y'all. And that is, looking at this case, if I -- not pre-judging it, but -- well, I could judge it at this point. If I were to grant the permit -- it's an interesting situation. You've got -- y'all had a clad or a -- who is encouraged to push the facility back and then now one of the complaints is that the facility is too close to the waterbody. I think I would think from an environmental standpoint. I'm just letting you know. I would be inclined to move the facility back closer to the road. You do see my quagmire. Moving it back and then complaining about it being back, I just think environmentally -- so, I suggest that in drafting your orders, that you may want to take that in consideration. And the only reason I'm telling you, because that's something that I

think would be helpful. All right?

MR. GUILD: Thank you, Judge.

MR. HIGHTOWER: Thank you, Your Honor.

THE COURT: All right. The normal way we do orders is 30 days from today's hearing or 30 days from the date the transcripts is made available to you. Is that acceptable to everybody?

MR. HIGHTOWER: That's fine with me.

THE COURT: That is somewhat -- if someone requests a transcript, and I got a feeling that y'all are going to request transcripts.

MS. TAYLOR: So, if I heard that, 30 days either from the date of the hearing or from the day that we receive the transcript?

THE COURT: I normally just say the date it's made available to you.

MS. TAYLOR: I see.

THE COURT: I've had instances in the past, long time ago though, but I -- the transcript was made available to somebody and they didn't take that opportunity for, you know, a week or two then been paid for it, but then wanted 30 days from that date. So, that's why I say 30 days from the date that it could be placed in your hands. If you choose not to take that opportunity, then

the clock is still running.

MR. MUSTIAN: Yes, Your Honor.

THE COURT: Anything else, y'all?

MR. GUILD: Thank you, Judge.

MS. TAYLOR: Thank you, Your Honor.

MR. HIGHTOWER: Thank you, Your Honor.

MR. MUSTIAN: Thank you, Your Honor.

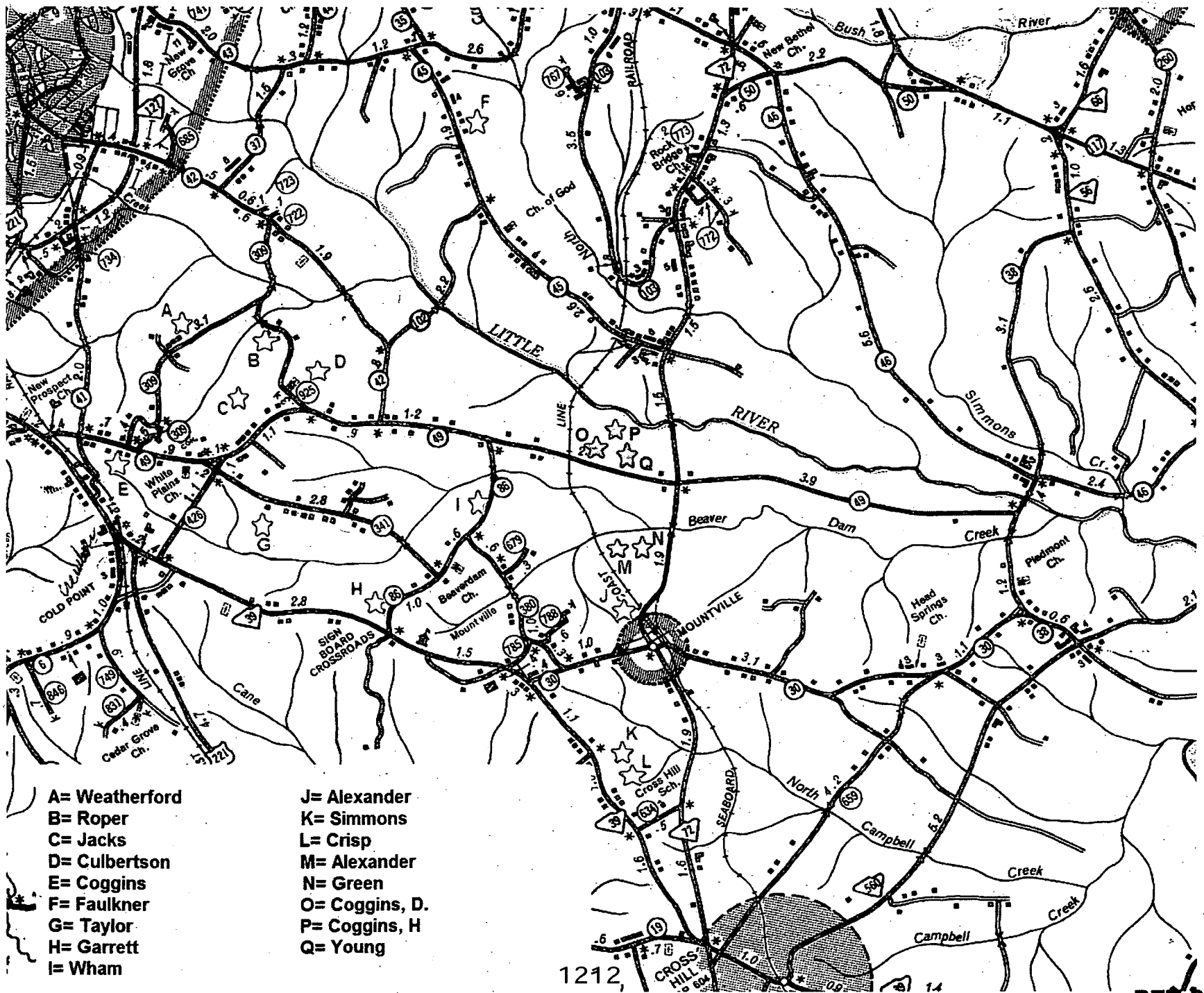
THE COURT: Y'all did a very good job from a legal standpoint. I've enjoyed it.

MR. MUSTIAN: Thank you, Your Honor.

THE COURT: This hearing's adjourned.

(There being nothing further, this hearing concluded on August 17, 2017 at 5:19 p.m.)

Orange = Existing Faci[illegible] / Red = Proposed Facility



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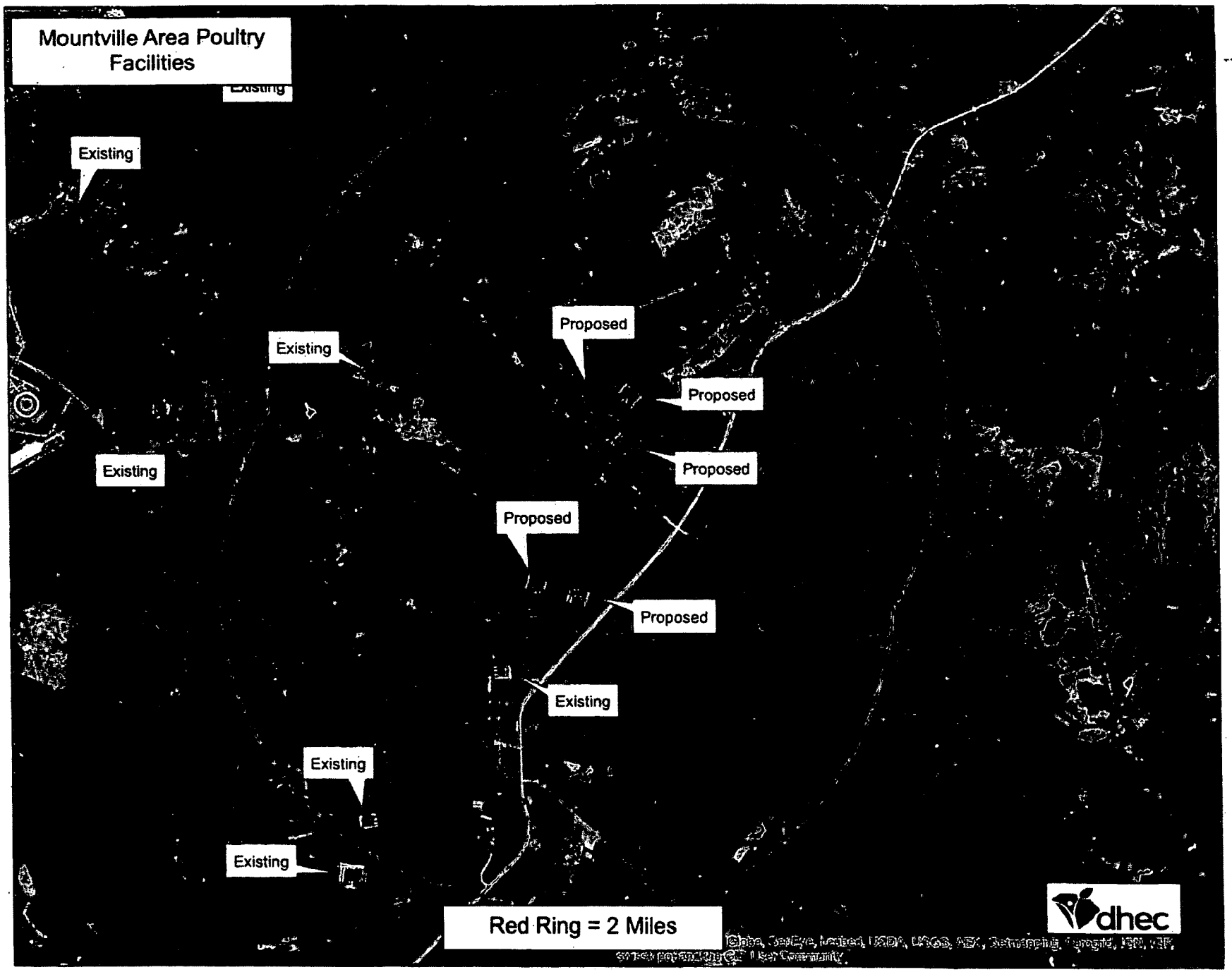
Mountville Area Poultry Facilities
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Laurens County
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Current Year
Active Year
Search
Mary Moses
Tina Moses
Blackmon
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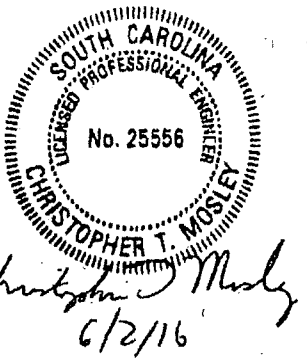

Comprehensive Nutrient Management Plan (CNMP)
(Version 2, 9/14/2011 Format)

The Comprehensive Nutrient Management Plan (CNMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This CNMP documents the planning decisions and operation and maintenance for the animal feeding operation. It includes background information and provides guidance, reference information and Web-based sites where up-to-date information can be obtained. Refer to the Producer Activity Document (PAD) for information about day-to-day management activities and recordkeeping. Both this CNMP document and the PAD document shall remain in the possession of the producer/landowner.

Farm/Facility: David Coggins Broilers

Farm Address:	Mailing Address:
Lisbon Rd. Near Hwy 72	1094 Lisbon Rd.
Mountville, SC 29370	Mountville, SC 29370
864-981-5604	

Owner/ Operator: David Coggins

Driving Directions: (From Mountville P.O.) Head E on Mountville Rd. and turn left onto SC-72 E, drive 1.8 miles. Turn left onto Lisbon Rd. drive 0.3 miles the farm is on the right.

County or Local Zoning Restrictions: There are no county or local zoning restrictions that impact this CNMP.

Hydrologic Unit Code (Facility): 030501090905

Flood Plain: The facility is located outside the 100-yr floodplain according to FEMA Maps FEMA FIRM Map 45059 C0365C.

Farm Headquarters Latitude/Longitude: 34° 23' 40.095" N 81° 57' 35.845" W

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JUN 13 2016
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Owner

Owner/Operator: David Coggins	Phone: 864-981-5604
Address: 1094 Lisbon Rd. Mountville, SC 29370	

The following people have assisted with the development of the CNMP and certify that their element meets all applicable NRCS standards.

Manure Handling and Storage

Signature: Chris J Mosley	Date: 6/2/16
Name: Chris Mosley, P.E.	
Title: Vice President, Senior Project Engineer	

Nutrient Management

Signature: Chris J Mosley	Date: 6/2/16
Name: Chris Mosley, P.E.	
Title: Vice President, Senior Project Engineer	

Land Treatment Practices

Signature: Chris J Mosley	Date: 6/2/16
Name: Chris Mosley, P.E.	
Title: Vice President, Senior Project Engineer	

Comprehensive Nutrient Management Plan

I certify that I have reviewed this plan for technical adequacy and that the elements of the CNMP are compatible, reasonable, and able to be implemented. All elements meet NRCS standards and specifications as well as requirements set forth by the South Carolina Department of Health and Environmental Controls.	
Signature: Chris J Mosley	Date: 6/2/16
Name: Chris Mosley, P.E.	
Title: Vice President, Senior Project Engineer	

Owner

As the owner/operator, I certify that I, as the decision-maker, have been involved in the planning process and agree the items/practices listed in each element are needed. I understand that I am responsible for complying with SCDHEC Regulation 61-43 and for keeping all necessary records associated with the implementation of this CNMP. It is my intent to implement /accomplish this CNMP in a timely manner as described in the plan.	
Signature:	Date: 6/2/16

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Section 1. Background and Site Information

1.1. General Description of Operation

David Coggins Broilers is a planned six barn (45' X 600') broiler facility in Mountville, SC. The planned population is 162,000 broilers with 27,000 birds in each house. Broilers will be raised on compacted clay floors covered with shavings. The exhaust fans for the barns will be on the NE ends and the barns will be spaced 60' apart. Approximately 4.5 flocks will be raised each year from 0.1 lbs. to 9 lbs. Each flock will be raised for 8-9 weeks with 2-3 weeks between flocks. The normal production live weight is approximately 737,100 lbs. Each year a full cleanout will occur in the spring. Between all other flocks crusting and windrowing will be alternated. The annual litter production is estimated at 988 tons per year.

All litter will be exported by L & M Litter Brokers (19,463-AG). Two planned 40' X 184' stacking sheds will hold litter until it is exported. Both stacking sheds will be built at a later date once DHEC has approved the plans and specs. Until stacking sheds are constructed litter must be exported immediately or placed on a DHEC approved pad for no more than three days.

Normal mortalities will be handled through burial until a planned 22' X 70' composter is built. The composter will be built at a later date once the plans and specs have been approved by DHEC. Emergency mortalities will be handled through burial.

1.2. South Carolina Agricultural Facilities Permit, Stacking Shed, and Composter Application Form

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Agricultural Permitting Division

Section 1. Background and Site Information

1.1. General Description of Operation

David Coggins Broilers is a planned six barn (45' X 600') broiler facility in Mountville, SC. The planned population is 162,000 broilers with 27,000 birds in each house. Broilers will be raised on compacted clay floors covered with shavings. The exhaust fans for the barns will be on the NE ends and the barns will be spaced 60' apart. Approximately 4.5 flocks will be raised each year from 0.1 lbs. to 9 lbs. Each flock will be raised for 8-9 weeks with 2-3 weeks between flocks. The normal production live weight is approximately 737,100 lbs. Each year a full cleanout will occur in the spring. Between all other flocks crusting and windrowing will be alternated. The annual litter production is estimated at 988 tons per year.

All litter will be exported by L & M Litter Brokers (19,463-AG). Two planned 40' X 184' stacking sheds will hold litter until it is exported. Both stacking sheds will be built at a later date once DHEC has approved the plans and specs.

Normal mortalities will be handled through burial until a planned 12' X 70' composter is built. The composter will be built at a later date once the plans and specs have been approved by DHEC. Emergency mortalities will be handled through burial.

1.2. South Carolina Agricultural Facilities Permit, Stacking Shed, and Composter Application Form

D H E C
PROMOTE PROTECT PROSPER

Standard Application Form for New or Expanding Agricultural Animal Facilities (other than swine)

Please Type or Print

Section 1 – FACILITY INFORMATION

DATE _____ FACILITY NUMBER ND 0089338

NEW X OR EXPANDING _____ FACILITY

IF EXPANDING: PERMIT NUMBER _____ DATE ISSUED _____

FARM NAME David Coggins Broilers

COUNTY Laurens COMMUNITY Mountville

LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370

IS THIS FARM PLANNING TO BE A CONTRACT GROWER WITH AN INTEGRATOR? (YES) or NO

NAME OF INTEGRATOR Amick Farms

Section 2 – CONTACT INFORMATION

PERMIT APPLICANT David Coggins

ADDRESS 1094 Lisbon Rd. Mountville, SC 29370

PHONE NUMBER (WORK) 864-981-5604 (HOME) _____ (CELL/BEEPER) _____

ARE YOU THE PROPERTY OWNER OF RECORD? YES or (NO) IF NO, PROVIDE INFORMATION:

PROPERTY OWNER OF RECORD Dunlap Enterprises, LLC.

ADDRESS PO Box 3129 Greenwood, SC 29648 Applicant has since purchased this property

PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

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OPERATOR'S NAME Same as permit applicant

ADDRESS _____

PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

SEP 22 2016

Stormwater, Construction & Agricultural Permitting Division

PLAN PREPARER Chris Mosley

TITLE/SC REGISTRATION NUMBER P.E. 25556

ADDRESS 501 N. Salem St. Suite 203, Apex, NC 27502

PHONE NUMBER (WORK) 919-367-6311 (FAX) 919-233-1970 (CELL/BEEPER) _____

Section 3 – ANIMAL TYPES & NUMBERS

AVERAGE ANIMAL LIVE WEIGHT = $\frac{\text{average exit weight} + \text{average entry weight}}{2} = \frac{(\ 0.1\ ) + (\ 9.0\ )}{2} =$ 4.55 pounds

Type(s) of Animals	Maximum # of Animals (at any one time)	Normal Production Live Weight (pounds)	Total Manure (tons/yr or gal/yr)	Manure to Treatment System	Additional Scraped Solids or Compost	Acres for Land Application
Broilers	162,000	737,100	988	N/A	N/A	Broker

D H E C
PROMOTE PROTECT PROSPER

Standard Application Form for New or Expanding Agricultural Animal Facilities (other than swine)

Please Type or Print

Section 1 – FACILITY INFORMATION

DATE 6/2/16 FACILITY NUMBER ND N/A 0089338

NEW X OR EXPANDING _____ FACILITY

IF EXPANDING: PERMIT NUMBER N/A DATE ISSUED N/A

FARM NAME David Coggins Broilers

COUNTY Laurens COMMUNITY Mountville

LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370

IS THIS FARM PLANNING TO BE A CONTRACT GROWER WITH AN INTEGRATOR? (YES) or NO

NAME OF INTEGRATOR Amick Farms

Section 2 – CONTACT INFORMATION

PERMIT APPLICANT David Coggins

ADDRESS 1094 Lisbon Rd. Mountville, SC 29370

PHONE NUMBER (WORK) 864-981-5604 (HOME) _____ (CELL/BEEPER) _____

ARE YOU THE PROPERTY OWNER OF RECORD? (YES) or NO IF NO, PROVIDE INFORMATION:

PROPERTY OWNER OF RECORD _____

ADDRESS _____

PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

OPERATOR'S NAME Same as permit applicant

ADDRESS _____

PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

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Type(s) of Animals	Maximum # of Animals (at any one time)	Normal Production Live Weight (pounds)	Total Manure (tons/yr or gal/yr)	Manure to Treatment System	Additional Scraped Solids or Compost	Acres for Land Application
Broilers	162,000	737,100	988	Stacking Shed	N/A	N/A

Section 4 – MANURE HANDLING & TREATMENT

MANURE HANDLING: (DRY) or WET COMPOSTER: YES or (NO) STACKING SHED: YES or (NO)
TREATMENT PROPOSED N/A
ARE YOU LAND APPLYING THE MANURE? YES or (NO)
DO YOU OWN ALL OF THE MANURE UTILIZATION AREAS? YES or (NO)
CONTRACT DISPOSAL OF MANURE WITH BROKER? (YES) or NO
NAME OF BROKER L & M Litter Brokers
IS INNOVATIVE OR ALTERNATIVE TECHNOLOGY BEING PROPOSED FOR THIS FACILITY? YES or (NO)
ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)
NUMBER OF GROUNDWATER MONITORING WELLS PROPOSED 0
VOLUME OF LAGOON OR STORAGE POND (if applicable) N/A cubic feet.
NUMBER OF HOUSES/GROWING AREAS: Existing 0 Proposed 6
ARE YOU A TRAINED MANURE MANAGER? (YES) or NO TRAINING DATE 4/1/2003 P0580

Section 5 – FACILITY SEPARATION DISTANCES

SEPARATION DISTANCES:	ANIMAL GROWING AREA (HOUSES OR BARNS)		LAGOON, STORAGE POND OR TREATMENT SYSTEM	
	Required	Actual	Required	Actual
POTABLE WELLS	200 feet	**2084'**	200 feet	
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	**NA**	100 feet	
WATERS OF THE STATE LOCATED DOWNSLOPE (excluding ephemeral & intermittent streams)	100 feet	**1975'**	100 feet	
OUTSTANDING RESOURCE WATERS, CRITICAL HABITATS FOR ENDANGERED SPECIES, SHELLFISH HARVESTING WATERS	100 feet	**27,129'**	500 feet	
EPHEMERAL OR INTERMITTENT STREAMS LOCATED DOWNSLOPE	100 feet*	**428'**	100 feet*	
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	**164'**	50 feet*	
PROPERTY LINE (500,000 lbs or less) (can be reduced or waived with written consent)	200 feet	**NA**	300 feet	
PROPERTY LINE (500,001 lbs or greater) (can be reduced or waived with written consent)	400 feet	**400'**	500 feet	
OCCUPIED PERMANENT RESIDENCE (can be reduced or waived with written consent)	1000 feet	**2084'**	1000 feet	

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

Section 6 – MANURE UTILIZATION AREA SEPARATION DISTANCES

For more fields please make copies of this page and add as additional sheets.

SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
RESIDENCE	300 ft**							

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Section 4 – MANURE HANDLING & TREATMENT

MANURE HANDLING: (DRY) or WET COMPOSTER: YES or (NO) STACKING SHED: YES or (NO)
TREATMENT PROPOSED N/A
ARE YOU LAND APPLYING THE MANURE? YES or (NO)
DO YOU OWN ALL OF THE MANURE UTILIZATION AREAS? YES or (NO)
CONTRACT DISPOSAL OF MANURE WITH BROKER? (YES) or NO
NAME OF BROKER L & M Litter Brokers
IS INNOVATIVE OR ALTERNATIVE TECHNOLOGY BEING PROPOSED FOR THIS FACILITY? YES or (NO)
ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)
NUMBER OF GROUNDWATER MONITORING WELLS PROPOSED 0
VOLUME OF LAGOON OR STORAGE POND (if applicable) N/A cubic feet
NUMBER OF HOUSES/GROWING AREAS: Existing 0 Proposed 6
ARE YOU A TRAINED MANURE MANAGER? (YES) or NO TRAINING DATE 4/1/2003 P0580

Section 5 – FACILITY SEPARATION DISTANCES

SEPARATION DISTANCES:	ANIMAL GROWING AREA (HOUSES OR BARNS)		LAGOON, STORAGE POND OR TREATMENT SYSTEM	
	Required	Actual	Required	Actual
POTABLE WELLS	200 feet	2391'	200 feet	
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	NA	100 feet	
WATERS OF THE STATE LOCATED DOWNSLOPE (excluding ephemeral & intermittent streams)	100 feet	2238'	100 feet	
OUTSTANDING RESOURCE WATERS, CRITICAL HABITATS OF ENDANGERED SPECIES, SHELLFISH HARVESTING WATERS	100 feet	26,702'	500 feet	
EPHEMERAL OR INTERMITTENT STREAMS LOCATED DOWNSLOPE	100 feet*	448'	100 feet*	
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	204'	50 feet*	
PROPERTY LINE (500,000 lbs or less) (can be reduced or waived with written consent)	200 feet	NA	300 feet	
PROPERTY LINE (500,001 lbs or greater) (can be reduced or waived with written consent)	400 feet	180'	500 feet	
OCCUPIED PERMANENT RESIDENCE (can be reduced or waived with written consent)	1000 feet	2391'	1000 feet	

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

Section 6 – MANURE UTILIZATION AREA SEPARATION DISTANCES

For more fields please make copies of this page and add as additional sheets.

SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
RESIDENCE	300 ft**							

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Section 4 – MANURE HANDLING & TREATMENT

MANURE HANDLING: (DRY) or WET COMPOSTER: (YES) or NO STACKING SHED: (YES) or NO

TREATMENT PROPOSED Stacking Shed

ARE YOU LAND APPLYING THE MANURE? (YES) or NO

DO YOU OWN ALL OF THE MANURE UTILIZATION AREAS? YES or (NO)

CONTRACT DISPOSAL OF MANURE WITH BROKER? (YES) or NO

NAME OF BROKER L & M Litter Brokers

IS INNOVATIVE OR ALTERNATIVE TECHNOLOGY BEING PROPOSED FOR THIS FACILITY? YES or (NO)

ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)

NUMBER OF GROUNDWATER MONITORING WELLS PROPOSED 0

VOLUME OF LAGOON OR STORAGE POND (if applicable) N/A cubic feet

NUMBER OF HOUSES/GROWING AREAS: Existing 0 Proposed 6

ARE YOU A TRAINED MANURE MANAGER? (YES) or NO TRAINING DATE 04/01/2003

Section 5 – FACILITY SEPARATION DISTANCES

SEPARATION DISTANCES:	ANIMAL GROWING AREA (HOUSES OR BARNS)		LAGOON, STORAGE POND OR TREATMENT SYSTEM	
	Required	Actual	Required	Actual
POTABLE WELLS	200 feet	2391'	200 feet	
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	NA	100 feet	
WATERS OF THE STATE LOCATED DOWNSLOPE (excluding ephemeral & intermittent streams)	100 feet	~~2238'~~ 1854	100 feet	
OUTSTANDING RESOURCE WATERS, CRITICAL HABITATS FOR ENDANGERED SPECIES, SHELLFISH HARVESTING WATERS	100 feet	26,702'	500 feet	
EPHEMERAL OR INTERMITTENT STREAMS LOCATED DOWNSLOPE	100 feet*	448' 302	100 feet*	
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	204' ?	50 feet*	
PROPERTY LINE (500,000 lbs or less) (can be reduced or waived with written consent)	200 feet	NA	300 feet	
PROPERTY LINE (500,001 lbs or greater) (can be reduced or waived with written consent)	400 feet	~~180'~~ 400	500 feet	waiver ✓
OCCUPIED PERMANENT RESIDENCE (can be reduced or waived with written consent)	1000 feet	2391'	1000 feet	

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

Section 6 – MANURE UTILIZATION AREA SEPARATION DISTANCES

For more fields please make copies of this page and add as additional sheets.

SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
RESIDENCE	300 ft**							

DHEC 3580 (02/2010)

MANURE UTILIZATION AREA TABLE CONTINUED

SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
RESIDENCE	300 ft**							

* Reduced to 75 ft for incorporated manure, and 50 ft for injection or incorporation within 24 hours.
**If method of application is injection or immediate incorporation, then manure may be spread to the property line. All residence setbacks may be reduced by consent of the owner of the residence.

Section 7 – PERMIT APPLICATION SUBMITTAL REQUIREMENTS

SUBMITTAL PACKAGE SHOULD INCLUDE 2 COPIES OF THE FOLLOWING ITEMS (CHECK EACH ONE SUBMITTED):

X 1. ORIGINAL APPLICATION (and 1 copy of the original)
X 2. ANIMAL FACILITY MANAGEMENT PLAN
   a. Animal Manure Management System Description
   b. Design Calculations and Construction Details for treatment/storage structure, including exact location and design information.
   c. Concentration of Manure Constituents
   d. Crop Management Plan (including contracts for each field not owned by the applicant, field owner's name and contact information)
   e. Type of Waste Transport/Spreading Equipment (if applicable)
   f. Spray Application System Specifications and Details (if applicable)
   g. Manure Utilization Area Information and Maps
   h. Soils Information (maps & descriptions)
   i. Location maps (showing facility, treatment/storage structure, and all fields)
   j. Copy of Tax Map (identifying all adjoining property owners within 1320 feet of the facility, names & addresses)
   k. 100 year floodplain locations (facility may not be located in the 100-year floodplain)

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N/A 3. GROUNDWATER MONITORING WELL PROGRAM & DETAILS (if applicable)
X 4. ODOR ABATEMENT PLAN
X 5. VECTOR ABATEMENT PLAN
X 6. PRIMARY METHOD OF DEAD ANIMAL DISPOSAL Burial
X 7. ALTERNATIVE METHOD OF DEAD ANIMAL DISPOSAL FOR EXCESSIVE MORTALITY: Burial
X 8. CONTRACTS FOR CONTRACT DISPOSAL OF DEAD ANIMALS OR MANURE (if applicable)
N/A 9. SOIL MONITORING PLAN
N/A 10. PLANS & SPECIFICATIONS FOR ALL OTHER TREATMENT OR STORAGE STRUCTURES (composter, stacking shed, etc...)
X 11. NOTICES OF INTENT FROM ALL PROPERTY OWNERS WITHIN 1320 FEET OF THE FOOTPRINT OF THE FACILITY
X 12. EMERGENCY PLAN
N/A 13. WRITTEN CONSENT FOR WAIVING OR REDUCING SETBACKS (if applicable)
N/A 14. ALTERNATIVE TECHNOLOGY PROPOSAL (if applicable): Specifications, and a detailed report including purpose and expected benefits.
X 15. APPLICATION FEE: See instructions on the back of this page for amount.
X 16. ANNUAL OPERATING FEE: See instructions for amount (first year's fee must be submitted before permit is issued).

Section 8 - CERTIFICATION

I HEREBY CERTIFY THAT ALL OPERATIONS, MAINTENANCE AND ASSOCIATED ACTIVITY PERTAINING TO THIS SITE SHALL BE ACCOMPLISHED PURSUANT TO AND IN KEEPING WITH THE TERMS AND CONDITIONS OF THE APPROVED PLANS. I HAVE READ THIS APPLICATION AND AGREE TO THE REQUIREMENTS AND CONDITIONS THAT ARE CONTAINED WITHIN. THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I HEREBY GRANT AUTHORIZATION TO THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL THE RIGHT OF ACCESS TO THE SITE AT ALL REASONABLE HOURS FOR THE PURPOSE OF SAMPLING AND ON SITE INSPECTIONS.

David Coggins
Printed Name /Owner or Lessee

Signature/Owner or Lessee

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 1 OF THE 1987 SC CODE OF LAWS, AND PURSUANT REGULATION 61-43 AND APPROPRIATE NRCS STANDARDS.

Chris Mosley

MANURE UTILIZATION AREA TABLE CONTINUED

SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
RESIDENCE	300 ft**							

* Reduced to 75 ft for incorporated manure, and 50 ft for injection or incorporation within 24 hours.
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   f. Spray Application System Specifications and Details (if applicable)
   g. Manure Utilization Area Information and Maps
   h. Soils Information (maps & descriptions)
   i. Location maps (showing facility, treatment/storage structure, and all fields)
   j. Copy of Tax Map (identifying all adjoining property owners within 1320 feet of the facility with names & addresses)
   k. 100 year floodplain locations (facility may not be located in the 100-year floodplain)
N/A 3. GROUNDWATER MONITORING WELL PROGRAM & DETAILS (if applicable)
X 4. ODOR ABATEMENT PLAN
X 5. VECTOR ABATEMENT PLAN
X 6. PRIMARY METHOD OF DEAD ANIMAL DISPOSAL: Burial and Composting
X 7. ALTERNATIVE METHOD OF DEAD ANIMAL DISPOSAL FOR EXCESSIVE MORTALITY: Burial
X 8. CONTRACTS FOR CONTRACT DISPOSAL OF DEAD ANIMALS OR MANURE (if applicable)
N/A 9. SOIL MONITORING PLAN
N/A 10. PLANS & SPECIFICATIONS FOR ALL OTHER TREATMENT OR STORAGE STRUCTURES (composter, stacking shed, etc...)
X 11. NOTICES OF INTENT FROM ALL PROPERTY OWNERS WITHIN 1320 FEET OF THE FOOTPRINT OF THE FACILITY
X 12. EMERGENCY PLAN
N/A 13. WRITTEN CONSENT FOR WAIVING OR REDUCING SETBACKS (if applicable)
N/A 14. ALTERNATIVE TECHNOLOGY PROPOSAL (if applicable): Specifications, and a detailed report including purpose and expected benefits.
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David Coggins
Printed Name /Owner or Lessee

Signature/Owner or Lessee

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Chris Mosley

APPLICATION INSTRUCTIONS - Agricultural Animal Facility Permit

Purpose: This form must be completed as part of an application package submitted for DHEC approval of proposed NEW or EXPANDING agricultural animal facilities. The required items should be checked to ensure that a complete administrative package has been submitted. If a complete administrative package is not submitted, the entire project may be returned.

Item-by-Item Instructions: ***Section 1 - Facility Information.*** *Date*: Enter the date of application. *Facility Number*: Leave blank, Department staff will assign a facility number. *New or Expanding Facility:* If this application is for an existing facility that has previously obtained an agricultural animal facility permit from DHEC, then indicate by checking EXPANSION or NEW if a new facility is being proposed. If an Expansion, provide the following: *Permit Number;* Provide the permit number for the permitted facility, and *Date Issued;* Provide the date on which DHEC issued the permit. *Farm Name*: Give the name of the proposed agricultural animal facility. *County*: Give the county in which the proposed facility is to be located. *Community*: Give the name of the community in which the proposed facility is to be located. *Location*: Give directions to the proposed facility from the nearest town or state road. *Integrator Information:* Circle YES or NO to indicate whether this farm will be under contract with an integrator or integrating company. Provide the Name of the Integrator for this facility.

Section 2 - Contact Information. *Permit Applicant*: Enter the name, address and phone numbers for the person who is applying for the permit. Circle YES or NO to indicate whether the permit applicant is the property owner of record. *Property Owner of Record*: Enter the name, address and phone number of the person who legally owns the property on which the proposed agricultural animal facility is to be located. *Operator*: Enter the name, address and phone number of the person who will be responsible for the daily operation of the proposed facility. *Plan Preparer:* Enter the name of the plan preparer. *Title/SC Registration Number*: Enter the title and SC registration number (if applicable) of the person responsible for the design of the Animal Facility Management plan. *Address, Phone Number*: Enter the business address and phone numbers for the plan preparer.

Section 3 – Animal Types & Numbers. *Average Animal Live Weight*: Calculate the average weight of one animal unit by taking the average exit weight plus the average entry weight and divide by two. *Type of Animal Operation*: Indicate the type of animal proposed to be grown at this facility (i.e. dairy, turkey, broiler, etc....). *Maximum # of Animals (at any one time)*: Indicate the maximum number of each type of animal at the facility at any one time. *Normal Production Animal Live Weight* (lbs): The maximum number of animals at the facility at any one time multiplied by the average animal live weight of those animals. *Total Manure Produced (tons/year or gallons/year)*: The total amount of manure produced by the animals in the span of one year. This amount should be represented in tons per year for dry manure and in gallons per year for wet manure. *Manure to Treatment System:* Provide the amount of manure or wastewater that is conveyed to a treatment system (if applicable). *Additional Scraped Solids or Compost:* Provide the amount of manure or solids that may be scraped at the barn, rather than conveyed to the treatment system. Or provide the amount of compost produced at a facility (if applicable). *Acres for Land Application*: The value here should be the number of acres available, that you would like to designate as manure utilization areas.

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Section 4 – Manure Handling & Treatment. *Manure Handling*: Circle DRY or WET to indicate the type of manure handling for this operation. *Treatment Proposed:* Describe the type of manure treatment being proposed at the facility. *Land Application*: Circle YES or NO to indicate whether the manure will be land applied. *Owner of Manure Utilization Areas:* Circle YES or NO to indicate whether the permit applicant owns all of the manure utilization areas. If the applicant does not own all of the manure utilization areas, written consent must be provided for each manure utilization area in the Animal Facility Management Plan. *Manure Broker*: Circle YES or NO to indicate whether a manure broker will be used for contract disposal of the manure from this facility and provide the name of the broker to be used (if applicable). *Treatment Technology*: Circle YES or NO to indicate whether innovative and alternative technology is being proposed for this facility. *Exceptional Quality Compost*: Circle YES or NO to indicate whether you are applying for the manure treated at your facility to qualify as exceptional quality compost (must meet product quality standards outlined in Part 300 of R.61-43). *Number of Groundwater Monitoring Wells*: Provide the number of groundwater monitoring wells that are proposed for this facility. *Volume of Lagoon or Storage Pond*: Provide the volume area of the proposed lagoon or storage pond. If more than one lagoon or storage pond is utilized, please provide the volume of each structure separately. *Number of Houses*: Indicate the number of existing and proposed houses that will be located on this property (All houses located on the same property tract must be considered one facility). *Trained Manure Manager*: Circle YES or NO to indicate whether the operator of the proposed facility has attended the certified manure manager's training and certification class conducted by Clemson Extension Service. Indicate the date on which the certification or training was obtained.

Section 5 – Facility Separation Distances. *Separation Distances*: This table outlines the required setbacks for the barns, lagoons, manure storage ponds or manure treatment systems. Enter the actual separation distance for the proposed facility in the appropriate spaces.

Section 6 – Manure Utilization Area Information. This table outlines the required setbacks for manure utilization areas. Enter field identification information, tract number, field number, and the actual separation distances for each manure application field in the appropriate spaces. Make copies of this section if you need additional tables for the field information.

Section 7 – Permit Application Submittal Requirements. Check each item that is being submitted as a part of this application. *All* items under Section 7 should be submitted to DHEC for review. In accordance with the **Environmental Protection Fee Reg. 61-30**, an application fee is required for submitting an Application for agricultural animal facilities. There is a requirement that DHEC meet certain time frames when processing permit applications. The "DHEC Time" is not the total time but rather it is the time that DHEC spends working on an application after a complete package is received. "DHEC Time" does not include the time an applicant takes to supply any information that may be requested by DHEC. The fees and time frames are as follows:

Agricultural Permit Application Fees

Facility Type	*DHEC Time*	*Fee*
Animal Facilities with wet manure handling	120 days	$240
Animal Facilities with dry manure handling	90 days	$165

Note: Please make **CHECKS** payable to SC DHEC/Bureau of Finance.

Regulation R61-30 also authorizes DHEC to assess annual environmental operating permit fees for certain permits. All new facilities must submit payment for the first years operating fee before the permit to construct is issued. The operating fee is $150 per year for animal facilities with wet manure handling operations and $75 per year for animal facilities with dry manure handling operations.

Section 8 – Certification. For this section, please read the certification statements and have the appropriate person(s) sign the certification.

DHEC Processing Procedures:

Two (2) copies of the submittal package are submitted to DHEC. After Permitting, DHEC files the original in the main project file, located in DHEC's central office. DHEC sends a copy of the approved package to the appropriate EQC Region Office.

DHEC 3580 (02/2010)

APPLICATION INSTRUCTIONS - Agricultural Animal Facility Permit

Purpose: This form must be completed as part of an application package submitted for DHEC approval of proposed NEW or EXPANDING agricultural animal facilities. The required items should be checked to ensure that a complete administrative package has been submitted. If a complete administrative package is not submitted, the entire project may be returned.

Item-by-Item Instructions: ***Section 1 - Facility Information.*** *Date*: Enter the date of application. *Facility Number*: Leave blank, Department staff will assign a facility number. *New or Expanding Facility*: If this application is for an existing facility that has previously obtained an agricultural animal facility permit from DHEC, then indicate by checking EXPANSION or NEW if a new facility is being proposed. If an Expansion, provide the following: *Permit Number;* Provide the permit number for the permitted facility, and *Date Issued;* Provide the date on which DHEC issued the permit. *Farm Name*: Give the name of the proposed agricultural animal facility. *County*: Give the county in which the proposed facility is to be located. *Community*: Give the name of the community in which the proposed facility is to be located. *Location*: Give directions to the proposed facility from the nearest town or state road. *Integrator Information:* Circle YES or NO to indicate whether this farm will be under contract with an integrator or integrating company. Provide the Name of the Integrator for this facility.

Section 2 - Contact Information. *Permit Applicant*: Enter the name, address and phone numbers for the person who is applying for the permit. Circle YES or NO to indicate whether the permit applicant is the property owner of record. *Property Owner of Record*: Enter the name, address and phone number of the person who legally owns the property on which the proposed agricultural animal facility is to be located. *Operator*: Enter the name, address and phone number of the person who will be responsible for the daily operation of the proposed facility. *Plan Preparer*: Enter the name of the plan preparer. *Title/SC Registration Number*: Enter the title and SC registration number (if applicable) of the person responsible for the design of the Animal Facility Management plan. *Address, Phone Number*: Enter the business address and phone numbers for the plan preparer.

Section 3 – Animal Types & Numbers. *Average Animal Live Weight*: Calculate the average weight of one animal unit by taking the average exit weight plus the average entry weight and divide by two. *Type of Animal Operation*: Indicate the type of animal proposed to be grown at this facility (i.e. dairy, turkey, broiler, etc....). *Maximum # of Animals (at any one time)*: Indicate the maximum number of each type of animal at the facility at any one time. *Normal Production Animal Live Weight* (lbs): The maximum number of animals at the facility at any one time multiplied by the average animal live weight of those animals. *Total Manure Produced (tons/year or gal/year)*: The total amount of manure produced by the animals in the span of one year. This amount should be represented in tons per year for dry manure and in gallons per year for wet manure. *Manure to Treatment System:* Provide the amount of manure or wastewater that is conveyed to a treatment system (if applicable). *Additional Scraped Solids or Compost:* Provide the amount of manure or solids that may be scraped at the barn, rather than conveyed to the treatment system. Or provide the amount of compost produced at the facility (if applicable). *Acres for Land Application:* The value here should be the number of acres available, that you would like to designate as manure utilization areas.

Section 4 – Manure Handling & Treatment. *Manure Handling*: Circle DRY or WET to indicate the type of manure handling for this operation. *Treatment Proposed:* Describe the type of manure treatment being proposed at the facility. *Land Application*: Circle YES or NO to indicate whether the manure will be land applied. *Owner of Manure Utilization Areas:* Circle YES or NO to indicate whether the permit applicant owns all of the manure utilization areas. If the applicant does not own all of the manure utilization areas, then owner information must be provided for each manure utilization area in the Animal Facility Management Plan. *Manure Broker*: Circle YES or NO to indicate whether a manure broker will be used for contract disposal of the manure from this facility and provide the name of the broker to be used (if applicable). *Treatment Technology*: Circle YES or NO to indicate whether innovative and alternative technology is being proposed for this facility. *Exceptional Quality Compost*: Circle YES or NO to indicate whether you are applying for the manure treated at your facility to qualify as exceptional quality compost (must meet product quality standards outlined in Part 360 of R.61-43). *Number of Groundwater Monitoring Wells*: Provide the number of groundwater monitoring wells that are proposed for this facility. *Volume of Lagoon or Storage Pond*: Provide the volume area of the proposed lagoon or storage pond. If more than one lagoon or storage pond is utilized, please provide the volume of each structure separately. *Number of Houses*: Indicate the number of existing and proposed houses that will be located on this property (All houses located on the same property tract must be considered one facility). *Trained Manure Manager*: Circle YES or NO to indicate whether the operator of the proposed facility has attended the certified manure manager's training and certification class conducted by Clemson Extension Service. Indicate the date on which the certification or training was obtained.

Section 5 – Facility Separation Distances. *Separation Distances*: This table outlines the required setbacks for the barns, lagoons, manure storage ponds or manure treatment systems. Enter the actual separation distance for the proposed facility in the appropriate spaces.

Section 6 – Manure Utilization Area Information. This table outlines the required setbacks for manure utilization areas. Enter field identification information, tract number, field number, and the actual separation distances for each manure application field in the appropriate spaces. Make copies of this section if you need additional tables for the field information.

Section 7 – Permit Application Submittal Requirements. Check each item that is being submitted as a part of this application. *All* items under Section 7 should be submitted to DHEC for review. In accordance with the **Environmental Protection Fee Reg. 61-30**, an application fee is required for submitting an Application for agricultural animal facilities. There is a requirement that DHEC meet certain time frames when processing permit applications. The "DHEC Time" is not the total time but rather it is the time that DHEC spends working on an application after a complete package is received. "DHEC Time" does not include the time an applicant takes to supply any information that may be requested by DHEC. The fees and time frames are as follows:

Agricultural Permit Application Fees

Facility Type	*DHEC Time*	*Fee*
Animal Facilities with wet manure handling	120 days	$240
Animal Facilities with dry manure handling	90 days	$165

Note: Please make **CHECKS** payable to SC DHEC/Bureau of Finance.

Regulation R61-30 also authorizes DHEC to assess annual environmental operating permit fees for certain permits. All new facilities must submit payment for the first years operating fee before the permit to construct is issued. The operating fee is $150 per year for animal facilities with wet manure handling operations and $75 per year for animal facilities with dry manure handling operations.

Section 8 – Certification. For this section, please read the certification statements and have the appropriate person(s) sign the certification.

DHEC Processing Procedures:

Two (2) copies of the submittal package are submitted to DHEC. After Permitting, DHEC files the original in the main project file, located in DHEC's central office. DHEC sends a copy of the approved package to the appropriate EQC Region Office.

D H E C
PROMOTE PROTECT PROSPER

Standard Application Form for an Agricultural Permit for Stacking Sheds/Composters

Please Type or Print

Section 1 – FARM INFORMATION

DATE _____ OPERATION NUMBER ND N/A

NEW X OR EXISTING _____ OPERATION
IF EXISTING: PERMIT NUMBER N/A DATE ISSUED N/A

FARM NAME David Coggins Broilers
COUNTY Laurens COMMUNITY Mountville
LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370

APPLICATION FOR STACKING SHED X COMPOSTER _____ COMBINATION _____
DOES THE STRUCTURE MEET NRCS SPECIFICATIONS? (YES) or NO
ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)
IS THIS FACILITY ASSOCIATED WITH A MANURE BROKERING OPERATION? (YES) or NO
DOES THIS OPERATION HAVE A TRAINED MANURE MANAGER? YES or (NO) TRAINING DATE N/A

Section 2 – CONTACT INFORMATION

PERMIT APPLICANT David Coggins
ADDRESS 1094 Lisbon Rd. Mountville, SC 29370
PHONE NUMBER (WORK) 864-981-5804 (HOME) _____ (CELL/BEEPER) _____

ARE YOU THE PROPERTY OWNER OF RECORD? YES or (NO) IF NO, PROVIDE INFORMATION:
PROPERTY OWNER OF RECORD Dunlap Enterprises, LLC.
ADDRESS PO Box 3129 Greenwood, SC 29648
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

OPERATOR'S NAME Same as permit Applicant
ADDRESS _____
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

RECEIVED
DEC 08 2016
Stormwater, Construction & Agricultural Permitting Division

PLAN PREPARER _____
TITLE/SC REGISTRATION NUMBER _____
ADDRESS _____
PHONE NUMBER (WORK) _____ (FAX) _____ (CELL/BEEPER) _____

Section 3 – STORAGE/COMPOSTING FACILITY SEPERATION DISTANCES

SEPARATION DISTANCES:	MANURE STORAGE/COMPOSTING STRUCTURES	
	Required	Actual
POTABLE WELLS	100 feet	2664'
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	NA
WATERS OF THE STATE LOCATED DOWNSLOPE (including ephemeral & intermittent streams)	100 feet*	278'
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	172'
PROPERTY LINE	200 feet**	784'

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

D H E C
PROMOTE PROTECT PROSPER

Standard Application Form for an Agricultural Permit for Stacking Sheds/Composters

Please Type or Print

Section 1 – FARM INFORMATION

DATE _____ OPERATION NUMBER ND N/A

NEW X OR EXISTING _____ OPERATION
IF EXISTING: PERMIT NUMBER N/A DATE ISSUED N/A

FARM NAME David Coggins Broilers
COUNTY Laurens COMMUNITY Mountville
LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370

APPLICATION FOR STACKING SHED X COMPOSTER _____ COMBINATION _____
DOES THE STRUCTURE MEET NRCS SPECIFICATIONS? (YES) or NO
ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)
IS THIS FACILITY ASSOCIATED WITH A MANURE BROKERING OPERATION? (YES) or NO
DOES THIS OPERATION HAVE A TRAINED MANURE MANAGER? YES or (NO) TRAINING DATE N/A

Section 2 – CONTACT INFORMATION

PERMIT APPLICANT David Coggins
ADDRESS 1094 Lisbon Rd. Mountville, SC 29370
PHONE NUMBER (WORK) 864-981-5604 (HOME) _____ (CELL/BEEPER) _____

ARE YOU THE PROPERTY OWNER OF RECORD? YES or (NO) IF NO, PROVIDE INFORMATION:
PROPERTY OWNER OF RECORD Dunlap Enterprises, LLC.
ADDRESS PO Box 3129 Greenwood, SC 29648
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

OPERATOR'S NAME Same as permit Applicant
ADDRESS _____
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

RECEIVED
DEC 0 8 2016
Stormwater, Construction & Agricultural Permitting Division

PLAN PREPARER _____
TITLE/SC REGISTRATION NUMBER _____
ADDRESS _____
PHONE NUMBER (WORK) _____ (FAX) _____ (CELL/BEEPER) _____

Section 3 – STORAGE/COMPOSTING FACILITY SEPERATION DISTANCES

SEPARATION DISTANCES:	MANURE STORAGE/COMPOSTING STRUCTURES		
	Required	SS1 Actual	SS2
POTABLE WELLS	100 feet	2318'	2640'
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	NA	NA
WATERS OF THE STATE LOCATED DOWNSLOPE (including ephemeral & intermittent streams)	100 feet*	321'	257'
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	60'	181'
PROPERTY LINE	200 feet**	430'	777'

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

D H E C
PROMOTE PROTECT PROSPER

Standard Application Form for an Agricultural Permit for Stacking Sheds/Composters

Please Type or Print.

Section 1 – FARM INFORMATION

DATE _____ OPERATION NUMBER ND N/A

NEW X OR EXISTING _____ OPERATION
IF EXISTING: PERMIT NUMBER N/A DATE ISSUED N/A

FARM NAME David Coggins Broilers
COUNTY Laurens COMMUNITY Mountville
LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370

APPLICATION FOR STACKING SHED X COMPOSTER _____ COMBINATION _____
DOES THE STRUCTURE MEET NRCS SPECIFICATIONS? (YES) or NO
ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)
IS THIS FACILITY ASSOCIATED WITH A MANURE BROKERING OPERATION? (YES) or NO
DOES THIS OPERATION HAVE A TRAINED MANURE MANAGER? YES or (NO) TRAINING DATE N/A

Section 2 – CONTACT INFORMATION

PERMIT APPLICANT David Coggins
ADDRESS 1094 Lisbon Rd, Mountville, SC 29370
PHONE NUMBER (WORK) 864-981-5604 (HOME) _____ (CELL/BEEPER) _____

ARE YOU THE PROPERTY OWNER OF RECORD? (YES) NO IF NO, PROVIDE INFORMATION:
PROPERTY OWNER OF RECORD _____
ADDRESS _____
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

OPERATOR'S NAME Same as permit Applicant
ADDRESS _____
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

PLAN PREPARER _____
TITLE/SC REGISTRATION NUMBER _____
ADDRESS _____
PHONE NUMBER (WORK) _____ (FAX) _____ (CELL/BEEPER) _____

Section 3 – STORAGE/COMPOSTING FACILITY SEPERATION DISTANCES

SEPARATION DISTANCES:	MANURE STORAGE/COMPOSTING STRUCTURES		
	Required	SS1 Actual	SS2
POTABLE WELLS	100 feet	2522'	2861'
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	NA	NA
WATERS OF THE STATE LOCATED DOWNSLOPE (including ephemeral & intermittent streams)	100 feet*	413'	488'
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	250'	318'
PROPERTY LINE	200 feet**	485'	276'

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

Section 4 – PERMIT APPLICATION SUBMITTAL REQUIREMENTS

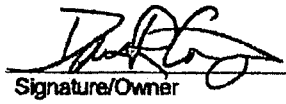
SUBMITTAL PACKAGE SHOULD INCLUDE 2 COPIES OF THE FOLLOWING ITEMS (check each item submitted):

X 1. ORIGINAL APPLICATION (and 1 copy of the original)
X 2. MANURE MANAGEMENT PLAN
   a. Animal Manure Management System Description
   b. Design Calculations and Construction Details for treatment/storage structure, including exact location and design information.
   c. Location maps (showing treatment/storage structure, and all fields)
   d. 100 year floodplain locations (treatment/storage structure may not be located in the 100-year floodplain)
X 3. ODOR ABATEMENT PLAN
X 4. VECTOR ABATEMENT PLAN
X 5. WRITTEN CONSENT FOR WAIVING OR REDUCING SETBACKS FOR TREATMENT/STORAGE STRUCTURE (if applicable)

Section 5 - CERTIFICATION

I HEREBY CERTIFY THAT ALL OPERATIONS, MAINTENANCE AND ASSOCIATED ACTIVITY PERTAINING TO THIS SITE SHALL BE ACCOMPLISHED PURSUANT TO AND IN KEEPING WITH THE TERMS AND CONDITIONS OF THE APPROVED PLANS. I HAVE READ THIS APPLICATION AND AGREE TO THE REQUIREMENTS AND CONDITIONS THAT ARE CONTAINED WITHIN. THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I HEREBY GRANT AUTHORIZATION TO THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL THE RIGHT OF ACCESS TO THE SITE AT ALL REASONABLE HOURS FOR THE PURPOSE OF SAMPLING AND ON SITE INSPECTIONS.

David Coggins
Printed Name /Owner


Signature/Owner

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 1 OF THE 1987 SC CODE OF LAWS, AND PURSUANT REGULATION 61-43 AND APPROPRIATE NRCS STANDARDS.

Printed Name/Plan Preparer

Signature/Plan Preparer

APPLICATION INSTRUCTIONS - Agricultural Permit for Stacking Sheds & Composters

Purpose:

This form must be completed as part of an application package submitted for DHEC approval of proposed NEW or EXPANDING agricultural manure stacking shed or composter. The required items should be checked to ensure that a complete administrative package has been submitted. If a complete administrative package is not submitted, the entire project may be returned.

Item-by-Item Instructions:

Section 1 - Contact Information.
Date: Enter the date of application.
Operation Number: Leave blank, Department will assign a facility number.
New or Existing Facilities: If this application is for an existing operation that has previously obtained an agricultural permit from DHEC; indicate by circling EXISTING or NEW for new operations. If EXISTING, provide the following: *Permit Number;* Provide the permit number for the permitted operation, and *Date Issued;* Provide the date on which DHEC issued the permit. *Farm Name*: Give the name of the agricultural operation.
County: Give the county in which the operation is located.
Location: Give directions to the proposed operation from the nearest town or state road.
Application Type: Indicate whether you are applying for a permit for a stacking shed, composter, or a combination or both a stacking shed and composter. *NRCS Specifications:* Circle YES or NO to indicate if the stacking shed and/or composter meets NRCS Specifications.
Exceptional Quality Compost: Circle YES or NO to indicate whether you are applying for the manure treated at your facility to qualify as exceptional quality compost (must meet product quality standards outlined in Part 300 of R.61-43).
Manure Brokering Operations: Circle YES or NO to indicate whether this application is being submitted for a stacking shed and/or composter that is associated with a manure brokering operation.
Trained Manure Manager: Circle YES or NO to indicate whether the operator has attended the certified manure manager's training and certification class conducted by Clemson Extension Service. Indicate the date on which the certification or training was obtained.

Section 2 – Contact Information.
Permit Applicant: Enter the name, address and phone numbers for the person who is applying for the permit.
Property Owner of Record: Circle YES or NO to indicate whether the permit applicant is the property owner of record.
Enter the name, address and phone number of the person who legally owns the property on which the proposed agricultural storage/composting facility is to be located.
Operator: Enter the name, address and phone number of the person who will be responsible for the daily operation of the proposed storage/composting facility.
Plan Preparer: Enter the name of the plan preparer. *Title/SC Registration Number*: Enter the title and SC registration number (if applicable) of the person responsible for the design of the Animal Facility Management plan. *Address, Phone Number*: Enter the business address and phone numbers for the plan preparer.

Section 3 – Storage/Composting Facility Separation Distances.
Separation Distances: This table outlines the required setbacks for the manure storage and composting systems. Please enter the actual separation distance for the proposed storage/composting facility in the appropriate spaces.

Section 4 – Permit Application Submittal Requirements.
Please check each item that is being submitted as a part of this application. *All* items under Section 4 should be submitted to DHEC for review.

Section 5 – Certification.
For this section, please read the certification statements and have the appropriate person(s) sign the certification.

DHEC Processing Procedures:

Two (2) copies of the submittal package are submitted to DHEC. After Permitting, DHEC files the original in the main project file, located in DHEC's central office. DHEC sends a copy of the approved package to the appropriate EQC Region Office.

D H E C

PROMOTE PROTECT PROSPER

Standard Application Form for an Agricultural Permit for Stacking Sheds/Composters

Please Type or Print

Section 1 – FARM INFORMATION

DATE _____ OPERATION NUMBER ND N/A

NEW X OR EXISTING _____ OPERATION

IF EXISTING: PERMIT NUMBER N/A DATE ISSUED N/A

FARM NAME David Coggins Broilers

COUNTY Laurens COMMUNITY Mountville

LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370

APPLICATION FOR STACKING SHED _____ COMPOSTER X COMBINATION _____

DOES THE STRUCTURE MEET NRCS SPECIFICATIONS? (YES) or NO

ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)

IS THIS FACILITY ASSOCIATED WITH A MANURE BROKERING OPERATION? (YES) or NO

DOES THIS OPERATION HAVE A TRAINED MANURE MANAGER? YES or (NO) TRAINING DATE N/A

Section 2 – CONTACT INFORMATION

PERMIT APPLICANT David Coggins

ADDRESS 1094 Lisbon Rd. Mountville, SC 29370

PHONE NUMBER (WORK) 864-981-5604 (HOME) _____ (CELL/BEEPER) _____

ARE YOU THE PROPERTY OWNER OF RECORD? (YES) or NO IF NO, PROVIDE INFORMATION:

PROPERTY OWNER OF RECORD _____

ADDRESS _____

PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

OPERATOR'S NAME Same as permit Applicant

ADDRESS _____

PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

PLAN PREPARER _____

TITLE/SC REGISTRATION NUMBER _____

ADDRESS _____

PHONE NUMBER (WORK) _____ (FAX) _____ (CELL/BEEPER) _____

Section 3 – STORAGE/COMPOSTING FACILITY SEPERATION DISTANCES

SEPARATION DISTANCES:	MANURE STORAGE/COMPOSTING STRUCTURES	
	Required	Actual
POTABLE WELLS	100 feet	2852'
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	NA
WATERS OF THE STATE LOCATED DOWNSLOPE (including ephemeral & intermittent streams)	100 feet*	460'
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	371'
PROPERTY LINE	200 feet**	382'

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

Section 4 – PERMIT APPLICATION SUBMITTAL REQUIREMENTS

SUBMITTAL PACKAGE SHOULD INCLUDE 2 COPIES OF THE FOLLOWING ITEMS (check each item submitted):

X 1. ORIGINAL APPLICATION (and 1 copy of the original)

X 2. MANURE MANAGEMENT PLAN
   a. Animal Manure Management System Description
   b. Design Calculations and Construction Details for treatment/storage structure, including exact location and design information.
   c. Location maps (showing treatment/storage structure, and all fields)
   d. 100 year floodplain locations (treatment/storage structure may not be located in the 100-year floodplain)

X 3. ODOR ABATEMENT PLAN

X 4. VECTOR ABATEMENT PLAN

X 5. WRITTEN CONSENT FOR WAIVING OR REDUCING SETBACKS FOR TREATMENT/STORAGE STRUCTURE (if applicable)

Section 5 - CERTIFICATION

I HEREBY CERTIFY THAT ALL OPERATIONS, MAINTENANCE AND ASSOCIATED ACTIVITY PERTAINING TO THIS SITE SHALL BE ACCOMPLISHED PURSUANT TO AND IN KEEPING WITH THE TERMS AND CONDITIONS OF THE APPROVED PLANS. I HAVE READ THIS APPLICATION AND AGREE TO THE REQUIREMENTS AND CONDITIONS THAT ARE CONTAINED WITHIN. THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I HEREBY GRANT AUTHORIZATION TO THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL THE RIGHT OF ACCESS TO THE SITE AT ALL REASONABLE HOURS FOR THE PURPOSE OF SAMPLING AND ON SITE INSPECTIONS.

David Coggins
Printed Name /Owner

Signature/Owner

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 1 OF THE 1987 SC CODE OF LAWS, AND PURSUANT REGULATION 61-43 AND APPROPRIATE NRCS STANDARDS.

Printed Name/Plan Preparer

Signature/Plan Preparer

APPLICATION INSTRUCTIONS - Agricultural Permit for Stacking Sheds & Composters

Purpose:

This form must be completed as part of an application package submitted for DHEC approval of proposed NEW or EXPANDING agricultural manure stacking shed or composter. The required items should be checked to ensure that a complete administrative package has been submitted. If a complete administrative package is not submitted, the entire project may be returned.

Item-by-Item Instructions:

Section 1 - Contact Information.
Date: Enter the date of application.
Operation Number: Leave blank, Department will assign a facility number.
New or Existing Facilities: If this application is for an existing operation that has previously obtained an agricultural permit from DHEC; indicate by circling EXISTING or NEW for new operations. If EXISTING, provide the following: *Permit Number;* Provide the permit number for the permitted operation, and *Date Issued;* Provide the date on which DHEC issued the permit. *Farm Name*: Give the name of the agricultural operation.
County: Give the county in which the operation is located.
Location: Give directions to the proposed operation from the nearest town or state road.
Application Type: Indicate whether you are applying for a permit for a stacking shed, composter, or a combination or both a stacking shed and composter. *NRCS Specifications:* Circle YES or NO to indicate if the stacking shed and/or composter meets NRCS Specifications.
Exceptional Quality Compost: Circle YES or NO to indicate whether you are applying for the manure treated at your facility to qualify as exceptional quality compost (must meet product quality standards outlined in Part 300 of R.61-43).
Manure Brokering Operations: Circle YES or NO to indicate whether this application is being submitted for a stacking shed and/or composter that is associated with a manure brokering operation.
Trained Manure Manager: Circle YES or NO to indicate whether the operator has attended the certified manure manager's training and certification class conducted by Clemson Extension Service. Indicate the date on which the certification or training was obtained.

Section 2 – Contact Information.
Permit Applicant: Enter the name, address and phone numbers for the person who is applying for the permit.
Property Owner of Record: Circle YES or NO to indicate whether the permit applicant is the property owner of record.
Enter the name, address and phone number of the person who legally owns the property on which the proposed agricultural storage/composting facility is to be located.
Operator: Enter the name, address and phone number of the person who will be responsible for the daily operation of the proposed storage/composting facility.
Plan Preparer: Enter the name of the plan preparer. *Title/SC Registration Number*: Enter the title and SC registration number (if applicable) of the person responsible for the design of the Animal Facility Management plan. *Address, Phone Number*: Enter the business address and phone numbers for the plan preparer.

Section 3 – Storage/Composting Facility Separation Distances.
Separation Distances: This table outlines the required setbacks for the manure storage and composting systems. Please enter the actual separation distance for the proposed storage/composting facility in the appropriate spaces.

Section 4 – Permit Application Submittal Requirements.
Please check each item that is being submitted as a part of this application. *All* items under Section 4 should be submitted to DHEC for review.

Section 5 – Certification.
For this section, please read the certification statements and have the appropriate person(s) sign the certification.

DHEC Processing Procedures:

Two (2) copies of the submittal package are submitted to DHEC. After Permitting, DHEC files the original in the main project file, located in DHEC's central office. DHEC sends a copy of the approved package to the appropriate EQC Region Office.

1.3. Preliminary Site Approval for Poultry Barns, Stacking Shed, and Composter

D H E C

PROMOTE PROTECT PROSPER

Catherine E. Heigel, Director

Promoting and protecting the health of the public and the environment

April 13, 2016

Mr. David Coggins
1094 Lisbon Rd.
Mountville, SC 29370

RE: Preliminary Site Approval for 6 Broiler Houses
Location: Take Lisbon Rd (SR49) Northwest from Hwy 72. Proposed site is ~0.8 mi. on the right.
County: Laurens

Dear Mr. Coggins:

The following information concerns a preliminary site investigation that was conducted on April 13, 2016 to discuss your proposed broiler facility. All requirements relevant to this type of operation contained in part 200 of Regulation 61-43, "Standards for the Permitting of Agricultural Animal Facilities", must be met before an Animal Feeding Operation Permit is issued. The site that you have chosen appears to be suitable for this type of operation. Permission is granted for you to proceed with the planning and design of your system.

In order to obtain an Animal Feeding Operation Permit or authorization to operate one, the following information is required:

1. Two copies of a **Waste Management Plan** and a signed **Standard Application Form for Agricultural Animal Facilities** - *Animal Facilities other than Swine* (DHEC form #3580) must be submitted. The waste management plan must be prepared by an engineer licensed to practice in South Carolina or it may be prepared by the Natural Resource Conservation Service.

2. A statement that the owner(s) will be responsible for operating and maintaining the waste management system in accordance with design criteria.

3. Provide Tax maps that identify the location of the proposed barn(s) and all property owners within ¼ mi. and the land use (residential, cropland, business, church, etc.). Please **NOTE** that the Department requires that the proposed animal houses are located at least 1000 feet from any inhabited residences. However, this distance requirement may be reduced with written consent from the owner of the dwelling.

4. Regulation 61-43 requires that you must notify all property owners within ¼ mi. of your proposed facility's footprint of your intent to build an agricultural facility. Proof of notification of all property owners whose property line is within ¼ mi. of the proposed facility's footprint. A signed Notice of Intent Form (DHEC form # 3579) or a certified mail card is sufficient.

5. Check for the application fee of $165 made payable to **DHEC's Bureau of Finance**.

6. Any animal or drinking water wells installed at this site must be located at least 50 feet from the broiler houses.

Upon receipt of the items above, we will promptly proceed with our review. **This site approval will expire on April 13, 2017.**

In designing your waste handling practices, you should keep in mind future environmental considerations, such as non-point source pollution and your growth plans. Please consider minimizing potential nuisances such as odors, flies, etc. If nuisances do occur, they will need to be corrected in the shortest time frame possible.

Please note that construction of this facility must not be initiated prior to receiving a Permit from this Department. Once the facility is constructed, no animals may be put into the facility prior to the SC DHEC Regional Office issuing written authorization to place the facility into operation. Failure to adhere to these requirements may result in an enforcement action.

If you have any questions, please do not hesitate to call me at (864) 227-5915.

Sincerely,

Chrissy Matthews

Chrissy Matthews
Upstate EQC Region – Greenwood

Cc: DHEC- Agricultural Waste Permitting Section

D H E C

PROMOTE PROTECT PROSPER

Catherine E. Heigel, Director

Promoting and protecting the health of the public and the environment

May 19, 2016

Mr. David Coggins
1094 Lisbon Rd.
Mountville, SC 29370

RE: Preliminary Site Approval for 2 Stacking Sheds and a Composter
Location: Take Lisbon Rd (SR49) Northwest from Hwy 72. Proposed site is ~0.8 mi. on the right.
County: Laurens

Dear Mr. Coggins:

The following information concerns a preliminary site investigation that was conducted on **April 13, 2016** and map received on May 19, 2016 in regards to the placement of 2 stacking sheds and a composter at the proposed facility. All requirements relevant to this type of disposal contained in part 200 of Regulation 61-43, "Standards for the Permitting of Agricultural Animal Facilities", must be met. The site that you have chosen is located on the Northeast side of the proposed houses. This site appears to be suitable for a composter and stacking sheds. Permission is granted for you to proceed with the planning and design of this system.

Please be aware that additional buffer zone requirements may be required on a case-by-case basis. Also, in handling of the manure, you should consider minimizing potential nuisances such as odor, flies, etc. However, if nuisances occur, you will need to correct them in the shortest time frame possible.

In designing your system, you should keep in mind future environmental concerns such as possible growth and non-point source pollution.

This site approval will expire on **April 13, 2017.**

If you have any questions, please do not hesitate to contact me at (864) 227-5915.

Sincerely,

Chrissy Matthews

Chrissy Matthews
Upstate EQC Region – Greenwood

Cc: DHEC- Agricultural Waste Permitting Section
Agri-Waste Technology, Inc. (AWT)

1.4. Litter Sampling

Litter Analysis
The producer shall be responsible for having representative samples of the manure collected and analyzed at least once per year and when the feed composition significantly changes. The amount of manure to be land applied so that the permitted application rate (normally the agronomic rate) is met will be determined using a rolling average of the previous analyses. The documentation must be maintained for at least eight years, longer if it relates to a USDA program. These analyses are part of the required Record Keeping and are stored under the Record Keeping element of this CNMP.

Obtaining a representative sample is one of the most important tasks in manure management because application rates are based on the concentration of nutrients in the manure. Samples should be taken as close as possible to the time of application. If several weeks elapse between sampling and land application, or if the manure is altered by rainfall or manure additions, another sample should be obtained. To take a representative sample, obtain a quart of manure from 15 to 20 locations in the pile or lagoon and place in a large clean plastic bucket. Mix this bulk sample thoroughly, and then place about a quart in a clean plastic bag or bottle. Seal tightly, but leave room for the sample to expand. Keep the sample cool. If the sample is not mailed to the laboratory on the same day it is sampled, it should be refrigerated.

Guidelines for analysis and application of manure may be obtained from Clemson Extension's EC 673, 1996, "Land Application of Animal Manure" (http://www.clemson.edu/psapublishing/pages/waste/EC673.PDF).

1.5. Existing Waste Management or Nutrient Management Plans

This CNMP will be the first waste management plan for this farm.

1.6. Operator or manager certifications:

Certified Animal Manure Manager (CAMM): David Coggins
Certificate Number:P0580, 04/01/2003

1.7. Notice(s) of Public Intent

Notices of Intent are included in Attachment A..

1.8. Waivers (Neighboring Landowners)

Setback waivers are included in Attachment B.

1.9. Manure Application Agreements

Not applicable for this plan

1.10. Natural Resource Concerns

If checked, the indicated resource concerns have been identified and have been addressed in this plan.

Soil Quality Concerns

	Soil Quality Concern	*Activities to Address Concern*
✓	None	

Water Quality Concerns

	Water Quality Concern	*Activities to Address Concern*
✓	None	

Other Concerns Addressed

	Other Concern	*Activities to Address Concern*
✓	Regulations	Plan required by DHEC
✓	Litter Storage	Planned Stacking Shed
✓	Mortality Management	Planned Composter

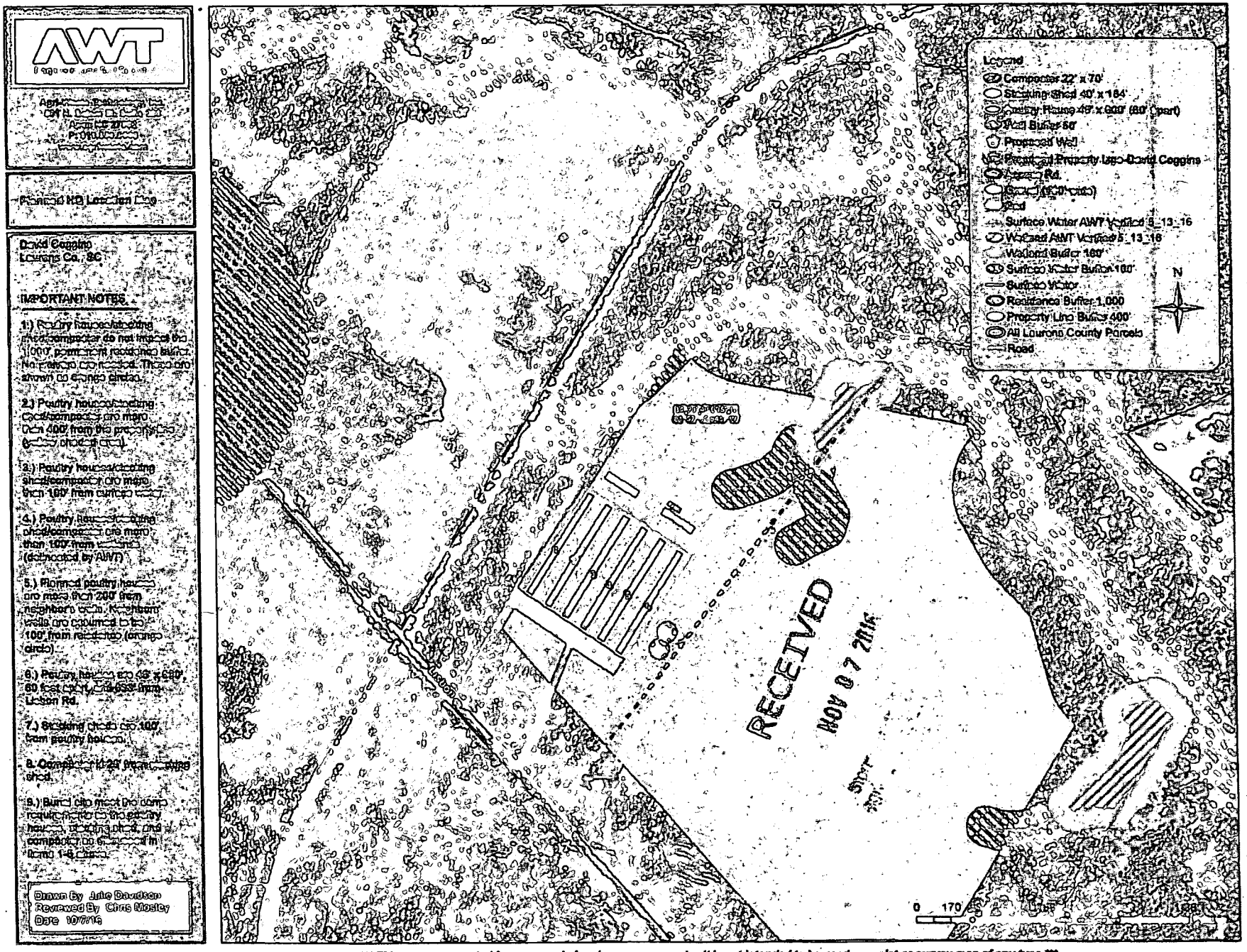
Section 2. Manure and Wastewater Handling and Storage

2.1. Map(s) of Production Area

1244

DHEC_000946

1244



1245

1245

DHEC_000947

AWT
Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 N. Salem St., Suite 203
Apex, NC 27502
Ph: 919.xxx.xxxx
www.agriwaste.com

Proposed HQ Location Map

David Coggins
Laurens Co., SC

N

IMPORTANT NOTES:

1.) Poultry houses/stacking shed/composter do not impact the 1,000' permanent residence buffer. No waivers are needed. These are shown as orange circles.

2.) Poultry houses/stacking shed/composter are closer than 400' from the property line (yellow shaded area). 1-400' property line waiver will be needed from Heath Coggins tax 510-00-00-009.

3.) Poultry houses/stacking shed/composter are more than 100' from surface water.

4.) Poultry houses/stacking shed/composter are more than 100' from wetlands (delineated by AWT).

5.) Planned poultry houses are more than 250' from neighbor's wells. Neighbors wells are assumed to be 100' from residence (orange circle).

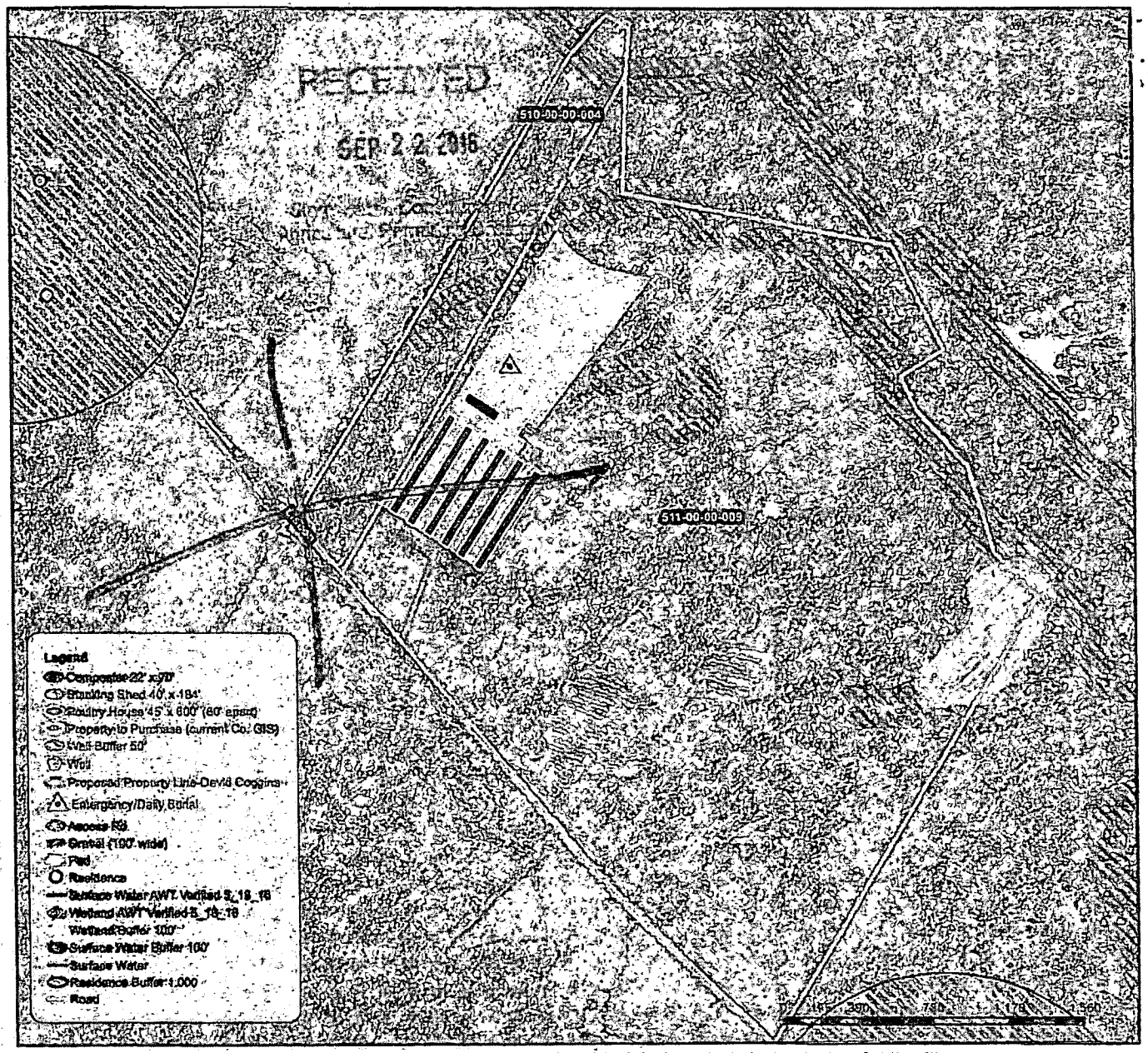
6.) Poultry houses are 45' x 600' and 60 feet apart.

7.) Stacking sheds are 100' from poultry houses.

8.) Composter is 25' from stacking shed.

9.) Burial site meet the same requirements as the poultry houses, stacking shed, and composter as discussed in items 1-5 above.

Drawn By: Julie Davidson
Reviewed By: Chris Hoyle
Date: 9/21/16



*** This map was created for proposed planning purposes only. It is not intended to be used as a plat or survey map of any type.***

DHEC_000948

1246

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Activate Technology, Inc.
8th N. Main St. Suite 205
Anderson, SC 29621
P: 800.000.0000
www.activatetech.com

Activate Tech

David Coggins
Lavonia, GA., 30

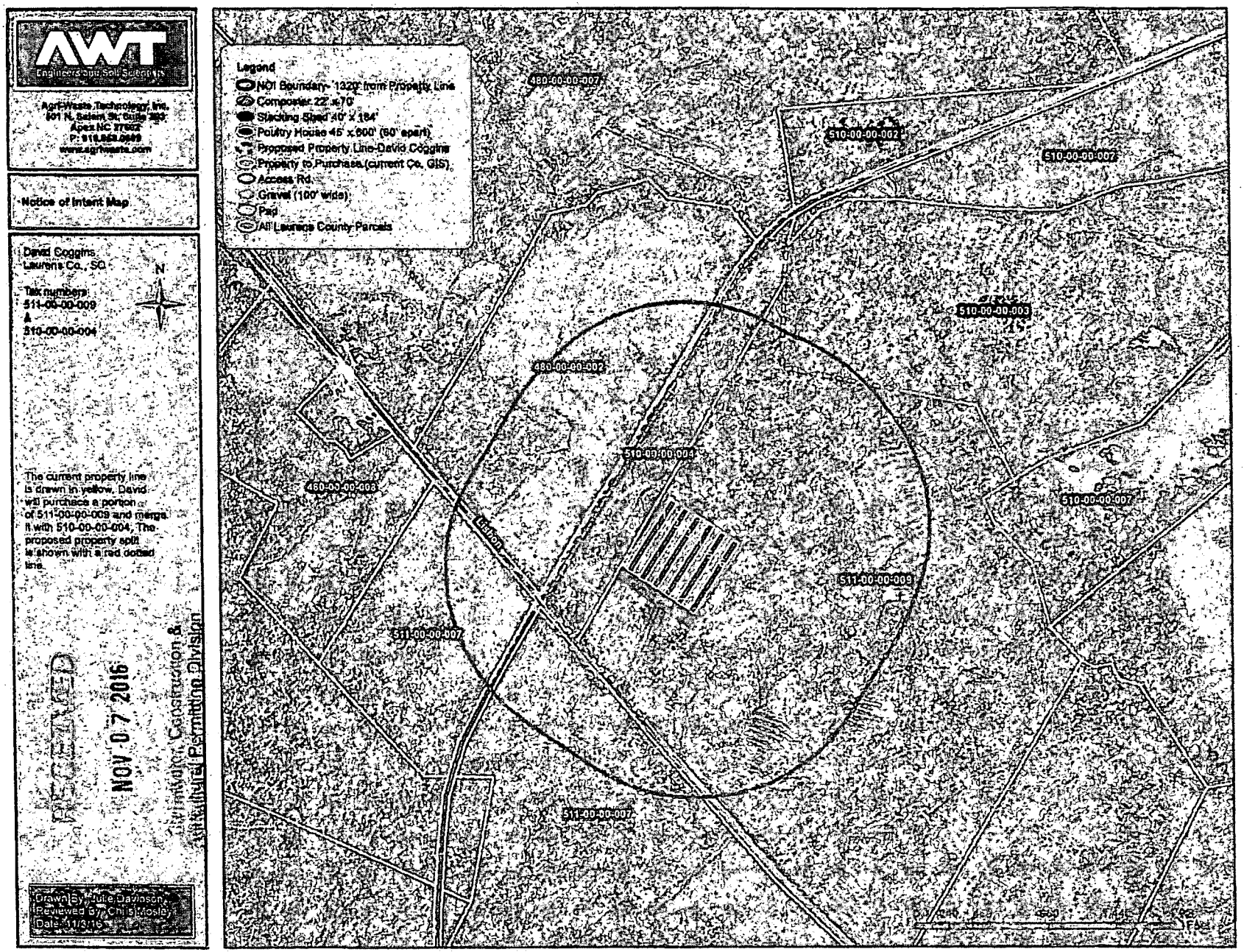
Tax numbers
R11-00-00-009
S10-00-00-004

IMPORTANT NOTES

Stacking stands and composter will be built at a later date when plans and specifications have been approved. The structures are down on this map pictured as inspection has been completed. Also, they are shown to justify their locations meet NRCS and SCDHEC requirements.

Furthermore, no one shall occupy any such land as their residence for this term.

Petition By Landowner
Reviewed by Gino Vicelli
Date 5/26/15



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1248

DHEC_000950

1248

AWT
Engineers and Soil Scientists

Agri-Waste Technology Inc.
501 S. Salem St. Suite 350
Apex, NC 27502
Ph: 919.829.9500
www.agriwaste.com

Notice of Intent Map

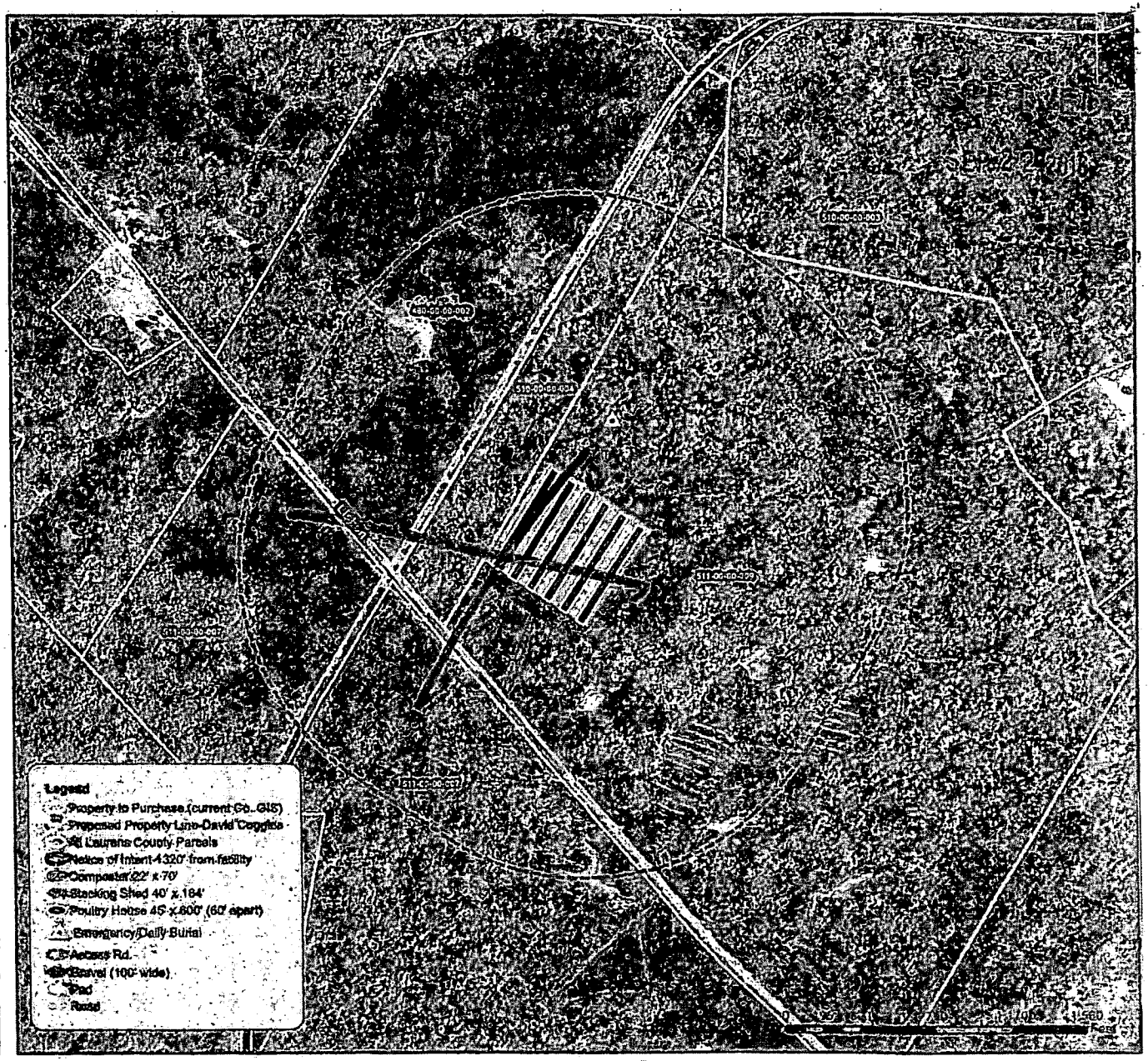
David Coggins
Laurens Co., SC

Tax number
511-00-00-009
510-00-00-004

N

The current property line is drawn in yellow. David will purchase a portion of 511-00-00-009 and merge it with 510-00-00-004. The proposed property split is shown with a red dotted line.

Drawn By: Julie Davidson
Reviewed By: Chris Mosley
Date: 9/14/15



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Agri-Waste Technology, Inc.
504 N. Salem St. Suite 210
Apex, NC 27502
P: 919.552.9881
www.awt-ag.com
Notice of Intent Map
David Coggins
Laurens Co., SC
Tax Numbers
511-00-00-008
510-00-00-004
Notice of Intent forms are needed for each Tax parcel number inside the 1,320' boundary.
Drawn By: Kyle Davidson
Reviewed By: Chris Mosley
Date: 9/26/18
Legend
Notice of Intent 1320' from facility
Emergency/Daily Burial
Composter 22' x 70'
Stacking Shed 40' x 184'
Poultry House 45' x 600' (60' apart)
Critical Area Planting
Access Rd.
Gravel (100' wide)
Pad
Laurens County Parcel
Road
510-00-00-003
480-00-00-002
511-00-00-009
510-00-00-004
Rutland
511-00-00-008
Heath Coggins
511-00-00-007
Lyons
511-00-00-009
James M. Young III
511-00-00-007

1250

1250

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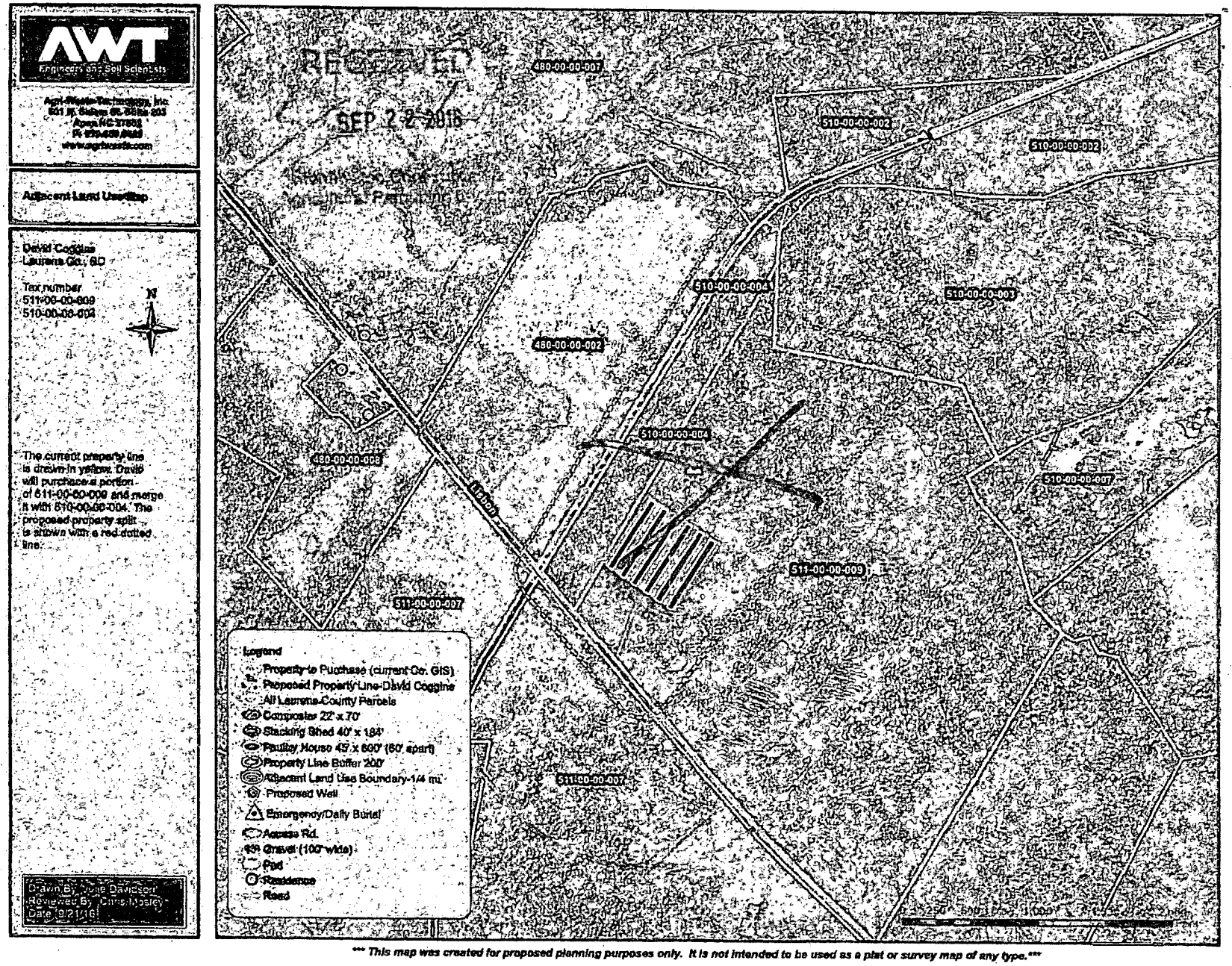
1251

DHEC_000953

1251



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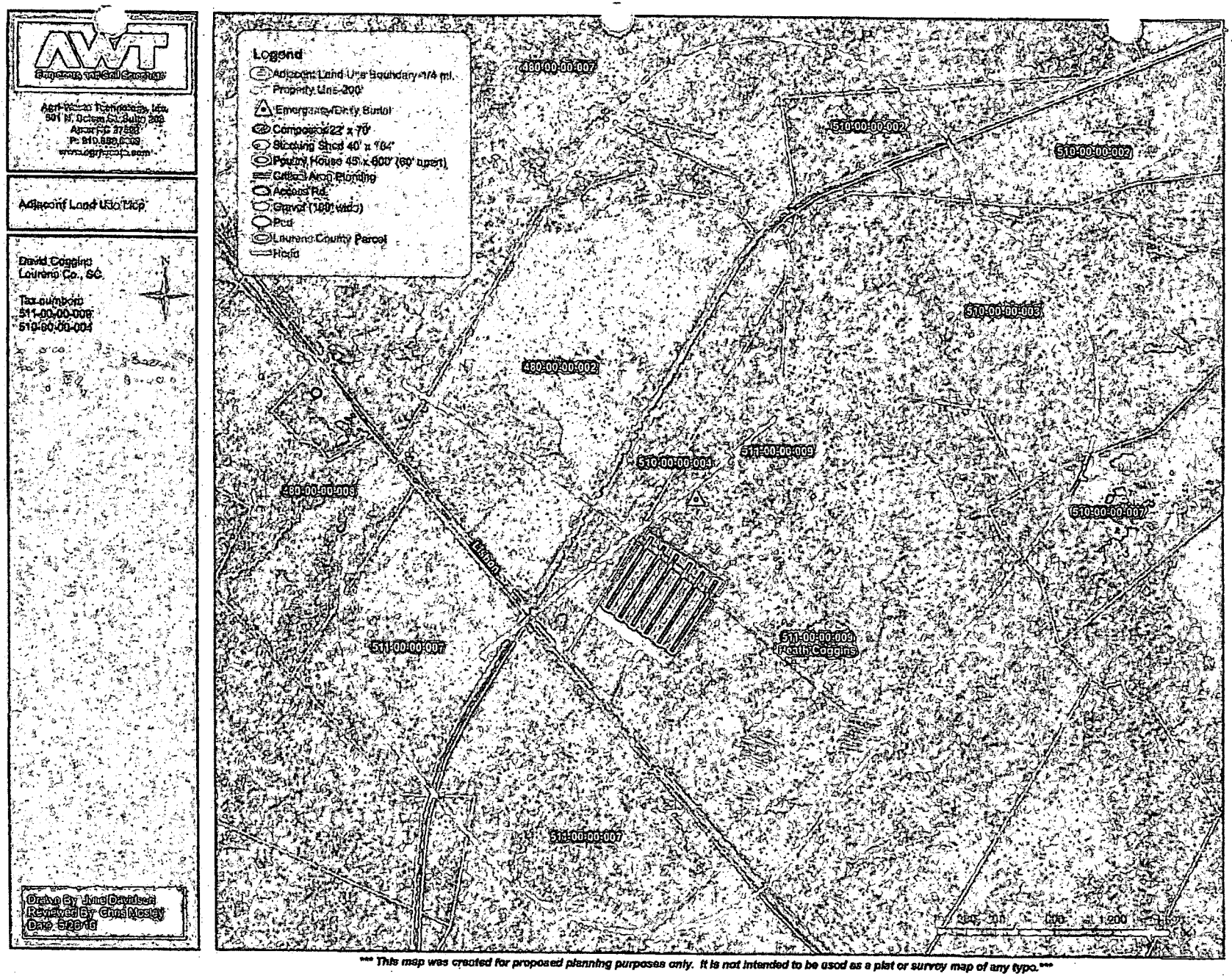
1252



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1253

DHEC_000955

1253

Agri-Waste Technology, Inc.
601 N. Broad St. Suite 209
Apex, NC 27502
P: 919.362[illegible]
www.agri[illegible].com

Headquarter Soils Map

David Coggins
Lancaster Co., SC

Tax Numbers
510-00-00-009
&
510-00-00-003

N

IMPORTANT NOTES

Stacking sheds and composter will be built at a later date when plans and specifications have been approved. The structures are shown on this map because a SCDHEC preliminary site inspection has been completed. Also, they are shown to justify their locations meet NRCS and SCDHEC requirements.

Furthermore, these structures have been sized according to the barn size and the litter management for this farm.

RECEIVED
NOV 07 2016

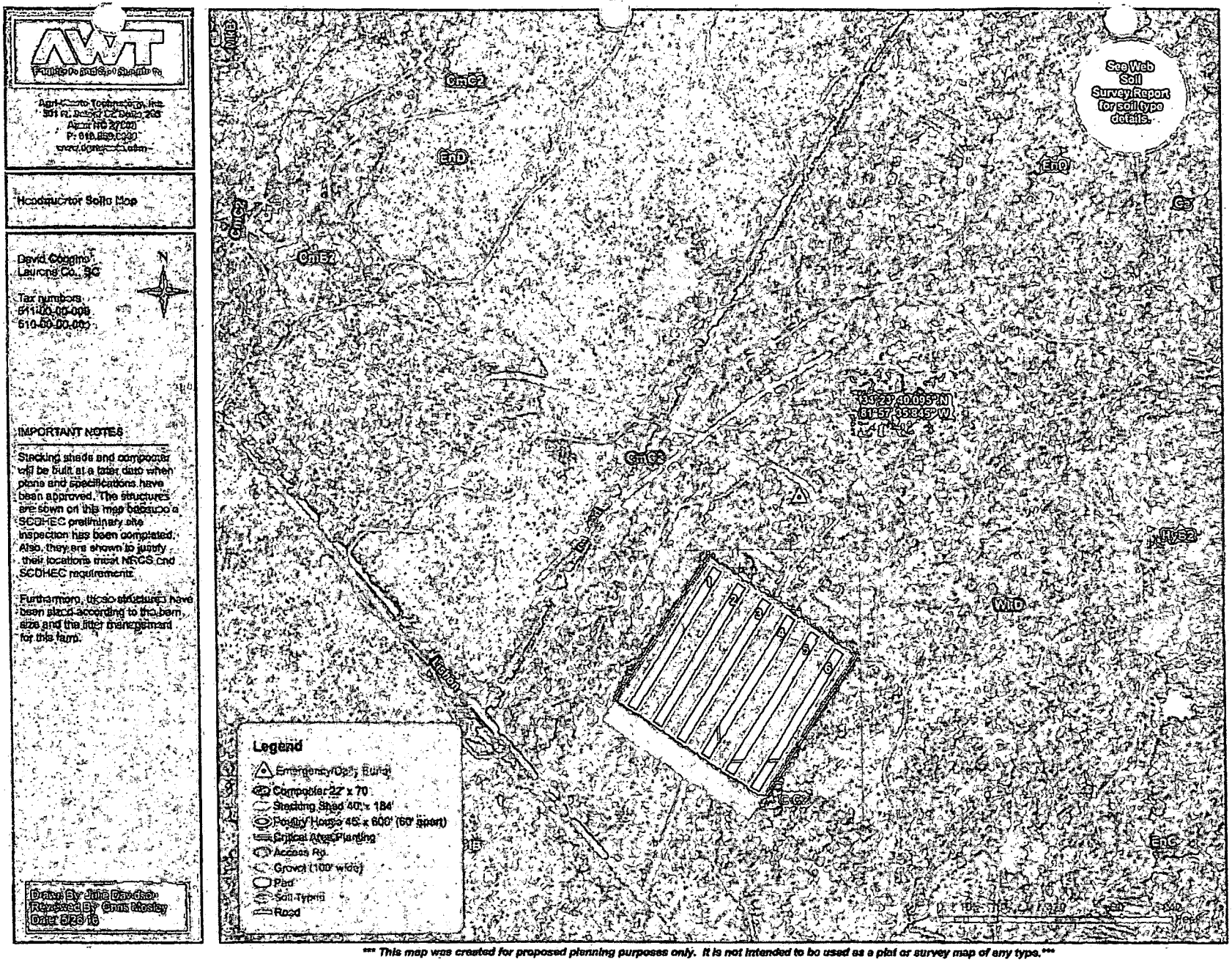
Drawn By: Julia Daystar
Reviewed By: Chris Wolfe
Date: 11/3/16

*** This map was created for proposed planning purposes only. It is not intended to be used as a plat or survey map of any type. ***

1254

DHEC_000956

1254



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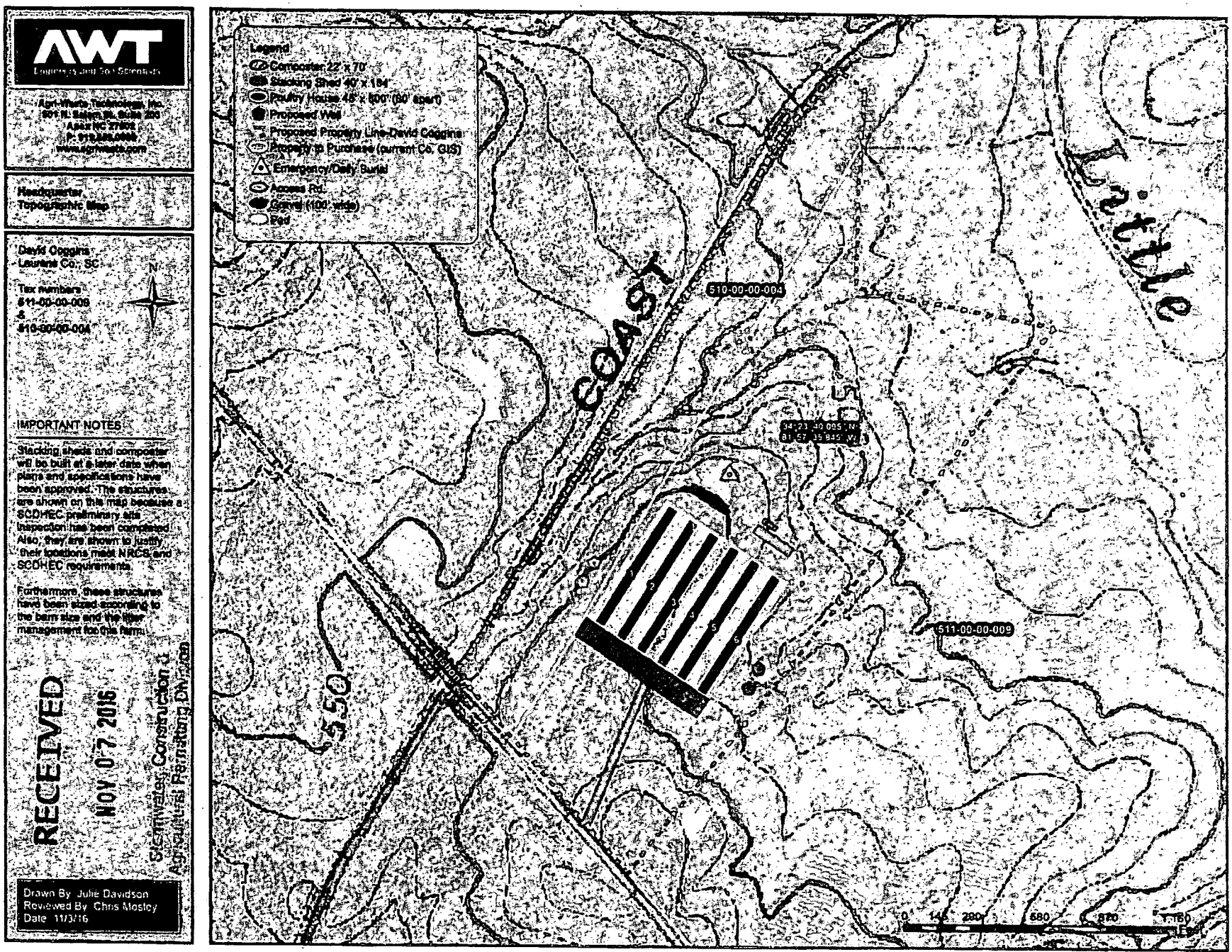
1255



*** This map was created for proposed planning purposes only. It is not intended to be used as a plat or survey map of any type.***

AgriWaste Technology, Inc.
601 N. Salem St., Suite 203
Apex, NC 27502
p: 919.662.9509
www.agriwaste.com

Headquarter
Topographic Flood Map

David Coggins
Laurens Co., SC

Tax numbers
511-00-00-005
510-00-00-004

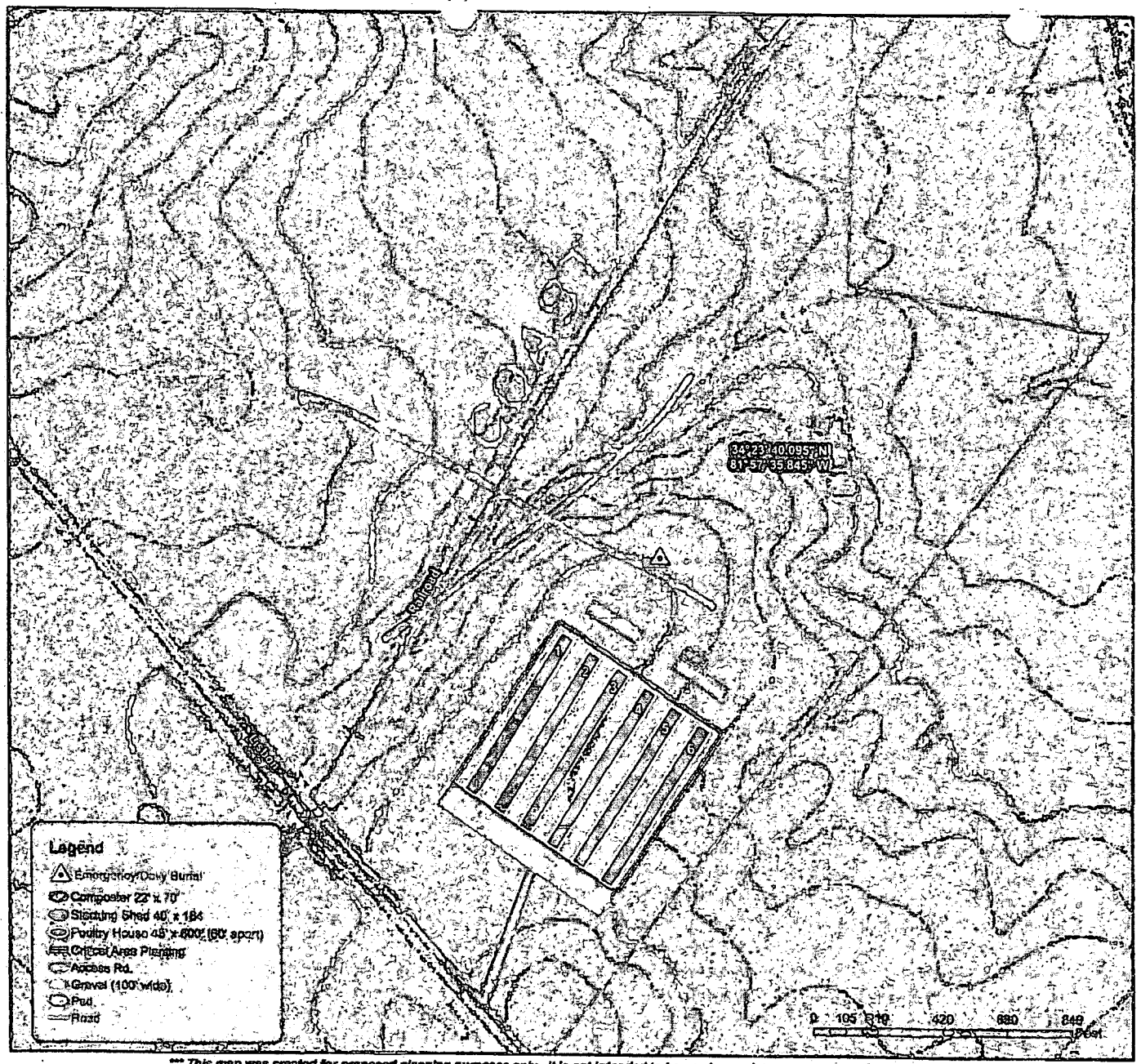
N

IMPORTANT NOTES

Stacking sheds and composter will be built at a later date when plans and specifications have been approved. The structures are sown on this map because a SCDHEC preliminary site inspection has been completed. Also, they are shown to justify their locations meet NRCS and SCDHEC requirements.

Furthermore, these structures have been sized according to the flock size and the litter management for this farm.

Drawn By: Julie Cavinder
Reviewed By: Chris Mosley
Date: 5/26/16



*** This map was created for proposed planning purposes only. It is not intended to be used as a plat or survey map of any type.***

1257

1257

*** This map was created for proposed planning purposes only. It is not intended to be used as a plat or survey map of any type.***

1258

1258

DHEC_000960

Agriculture Technology, Inc.
301 N. Main St. Suite 1A3
Aiken, SC 29801
Ph. 803.649.6300
www.agtechnology.com

Headquarter Flood Map

David Coggins
Laurens Co., SC

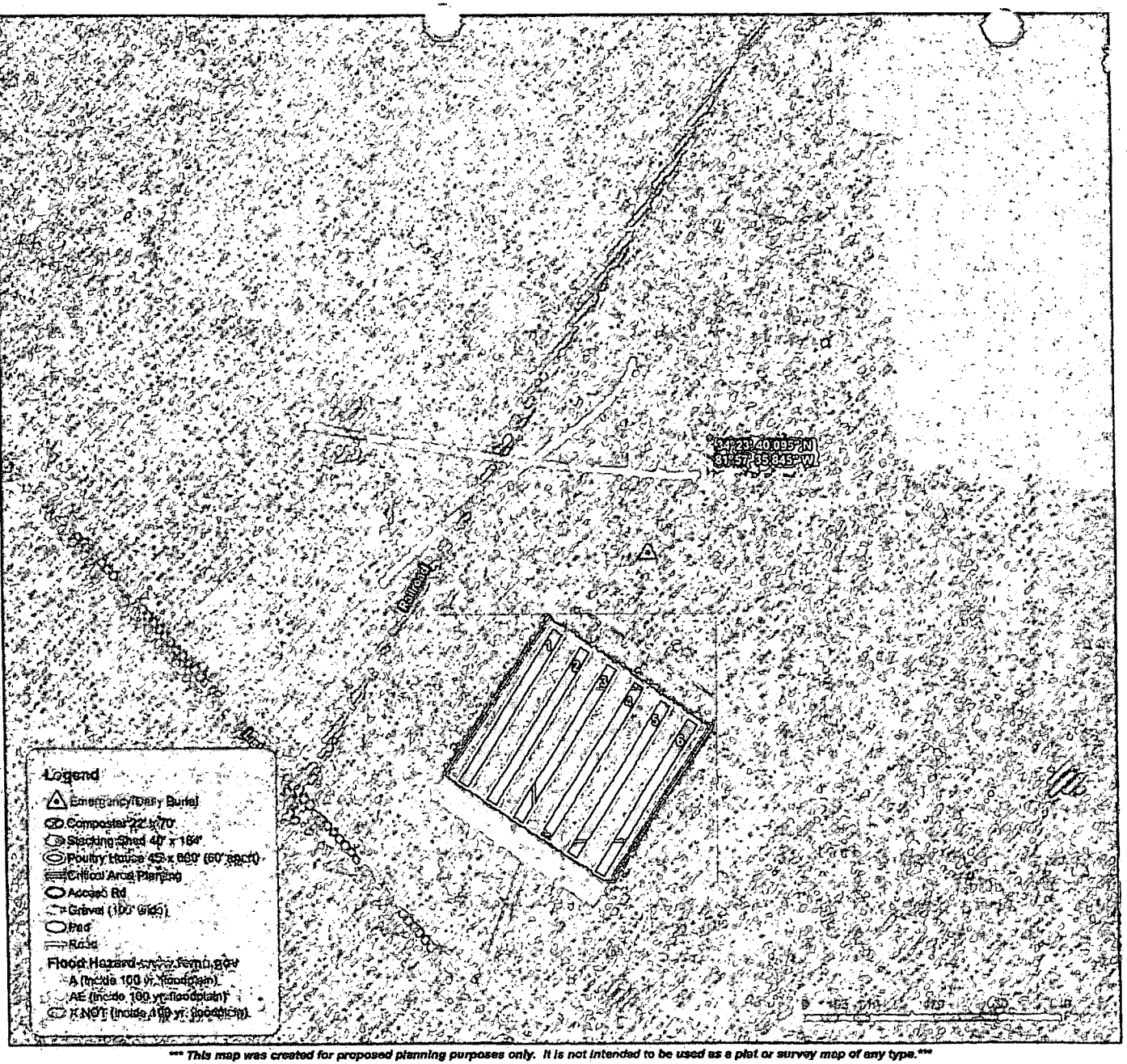
Tax numbers:
511-00-00-009
510-00-00-004

IMPORTANT NOTES

Stacking sheds and composter will be built at a later date, when plans and specifications have been approved. The structures are sown on this map because a SCDHEC preliminary site inspection has been completed. Also, they are shown to justify their locations meet NRCS and SCDHEC requirements.

Furthermore, these structures have been sized according to the barn size and the litter management for this farm.

Drawn By: Julie Gaydosh
Reviewed By: Chris Wesley
Date: 5/26/16



*** This map was created for proposed planning purposes only. It is not intended to be used as a plat or survey map of any type.***

1259

DHEC_000961

1259

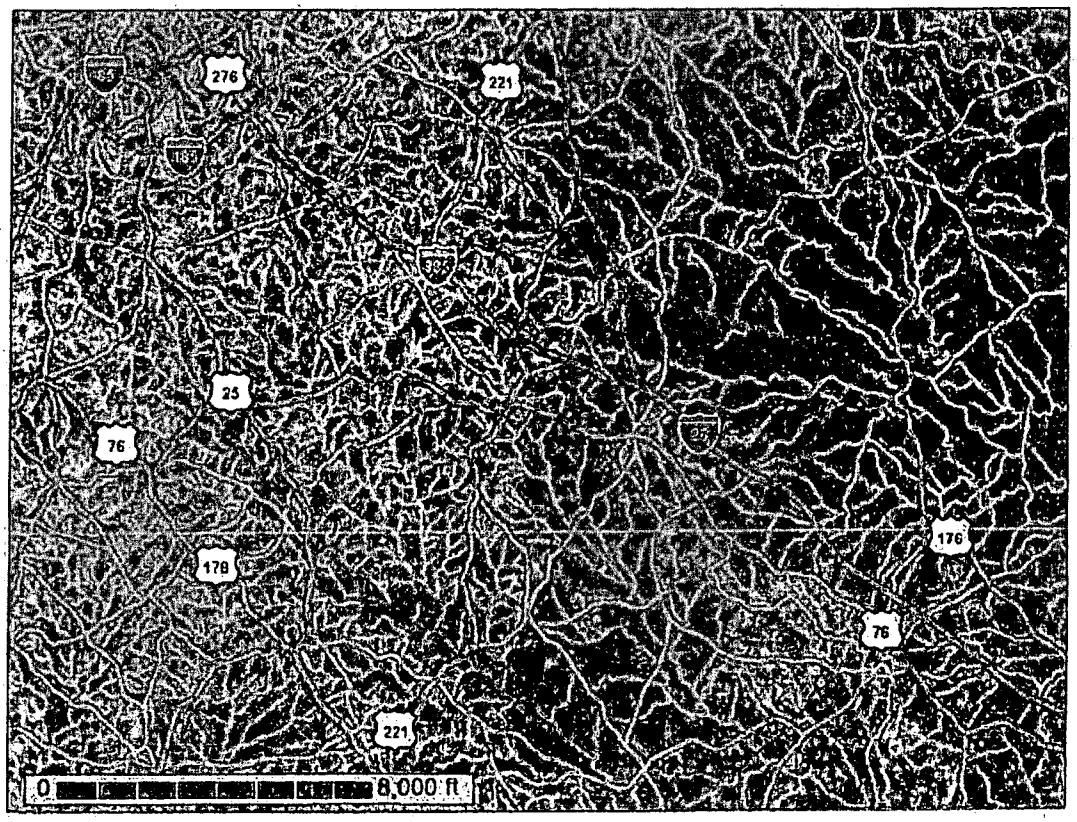
USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Laurens County, South Carolina

David Coggins CNMP



May 26, 2016

DHEC_000962

1260

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Map Unit Legend

Laurens County, South Carolina (SC059)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CIB	Cecil sandy loam, 2 to 6 percent slopes	0.0	0.0%
CIC2	Cecil sandy loam, 6 to 10 percent slopes, eroded	0.0	0.0%
CmC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	0.0	0.0%
EnD	Enon sandy loam, 10 to 15 percent slopes	0.0	0.0%
WkD	Wilkes sandy loam, 6 to 15 percent slopes	0.0	0.0%
Totals for Area of Interest		**461,914.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas

for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of

the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Laurens County, South Carolina

CIB—Cecil sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2q7j7
Elevation: 150 to 1,250 feet
Mean annual precipitation: 40 to 69 inches
Mean annual air temperature: 50 to 66 degrees F
Frost-free period: 180 to 280 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Cecil and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cecil

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gneiss and/or granite

Typical profile

A - 0 to 6 inches: sandy loam
Bt - 6 to 42 inches: clay
BC - 42 to 80 inches: clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

Minor Components

Cataula

Percent of map unit: 3 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Convex
Across-slope shape: Linear

Bethlehem
Percent of map unit: 2 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Convex
Across-slope shape: Linear

CIC2—Cecil sandy loam, 6 to 10 percent slopes, eroded

Map Unit Setting
National map unit symbol: 4cn3
Elevation: 200 to 1,400 feet
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Cecil and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cecil

Setting
Landform: Interfluves
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from granite, gneiss, and schist

Typical profile
Ap - 0 to 5 inches: sandy loam
Bt - 5 to 58 inches: clay
C - 58 to 79 inches: clay loam

Properties and qualities
Slope: 6 to 10 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

CmC2—Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2tqlf
Elevation: 220 to 1,160 feet
Mean annual precipitation: 40 to 69 inches
Mean annual air temperature: 50 to 66 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cecil, moderately eroded, and similar soils: 93 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cecil, Moderately Eroded

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gneiss and/or residuum weathered from granite

Typical profile

A - 0 to 3 inches: sandy clay loam
Bt - 3 to 48 inches: clay
BCt - 48 to 80 inches: sandy clay loam

Properties and qualities

Slope: 6 to 10 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B

Minor Components

Cataula, moderately eroded
Percent of map unit: 4 percent
Landform: Interfluves
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear

Bethlehem, moderately eroded
Percent of map unit: 3 percent
Landform: Interfluves
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Convex
Across-slope shape: Linear

EnD—Enon sandy loam, 10 to 15 percent slopes

Map Unit Setting
National map unit symbol: 4cnh
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Not prime farmland

Map Unit Composition
Enon and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Enon

Setting
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from hornblende, diorite, or gabbro

Typical profile
Ap - 0 to 5 inches: sandy loam
Bt - 5 to 38 inches: clay
C - 38 to 79 inches: sandy loam

Properties and qualities
Slope: 10 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained

Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

WkD—Wilkes sandy loam, 6 to 15 percent slopes

Map Unit Setting
National map unit symbol: 4cpb
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Not prime farmland

Map Unit Composition
Wilkes and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wilkes

Setting
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from hornblende, diorite, or gabbro

Typical profile
Ap - 0 to 7 inches: sandy loam
Bt - 7 to 12 inches: sandy clay loam
Cr - 12 to 24 inches: weathered bedrock
R - 24 to 79 inches: unweathered bedrock

Properties and qualities
Slope: 6 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Available water storage in profile: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D

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Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as

a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CIB—Cecil sandy loam, 2 to 6 percent slopes														
Cecil	0-6	45-70-85	0-20-45	5-10-20	1.30-1.40-1.50	14.00-28.00-42.00	0.12-0.13-0.14	0.2-0.4-0.9	0.5-0.5-1.0	.24	.24	5	3	86
	6-42	0-30-45	0-16-53	35-55-70	1.30-1.40-1.50	4.00-9.00-14.00	0.08-0.10-0.16	0.9-1.8-2.6	0.0-0.1-0.5	.15	.15			
	42-80	20-45-80	0-20-53	20-35-35	1.30-1.40-1.50	4.00-9.00-14.00	0.14-0.15-0.19	0.4-1.0-1.2	0.0-0.1-0.5	.17	.17			
Cataula	0-5	48-70-85	3-20-45	5-10-15	1.35-1.55-1.75	14.00-28.00-42.00	0.11-0.13-0.14	0.0-1.5-2.9	0.5-0.8-1.0	.28	.28	3	3	86
	5-18	5-32-45	1-16-52	35-53-70	1.30-1.45-1.60	1.40-3.00-4.00	0.08-0.09-0.16	0.0-1.5-2.9	0.0-0.1-0.5	.20	.20			
	18-45	5-41-80	1-18-52	30-41-50	1.75-1.85-1.95	0.42-0.90-1.40	0.08-0.07-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
	45-80	15-58-80	2-17-52	20-28-35	1.60-1.70-1.80	1.40-3.00-4.00	0.11-0.12-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
Bethlehem	0-7	53-70-85	0-16-30	8-14-20	1.00-1.25-1.50	14.00-28.00-42.00	0.12-0.13-0.14	0.0-1.5-2.9	0.5-0.5-1.5	.20	.20	3	3	86
	7-11	20-54-80	0-15-53	20-31-35	1.20-1.40-1.50	4.00-9.00-14.00	0.14-0.16-0.19	0.0-1.5-2.9	0.0-0.3-0.5	.17	.17			
	11-39	0-36-45	0-20-53	35-45-65	1.30-1.40-1.50	4.00-9.00-14.00	0.08-0.10-0.16	0.0-1.5-2.9	0.0-0.3-0.5	.15	.15			
	39-42	—	—	—	—	0.01-0.20-0.42	0.00-0.00-0.01	—	—					
	42-80	—	—	—	—	0.00-0.10-0.42	0.00-0.00-0.01	—	—					

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Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CtC2—Cecil sandy loam, 6 to 10 percent slopes, eroded														
Cecil	0-5	-68-	-20-	5-13- 20	1.30-1.40-1.50	14.00-28.00-42.00	0.12-0.13-0.14	0.0- 1.5- 2.9	0.5- 0.8-1.0	.20	.20	5	3	86
	5-58	-25-	-23-	35-53- 60	1.30-1.40-1.50	4.00-9.00-14.00	0.13-0.14-0.15	0.0- 1.5- 2.9	0.0- 0.1-0.2	.17	.17			
	58-79	-35-	-30-	15-35- 40	1.30-1.40-1.50	4.00-9.00-14.00	0.13-0.14-0.15	0.0- 1.5- 2.9	0.0- 0.1-0.2	.28	.28			

Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CmC2—Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded														
Cecil, moderately eroded	0-3	56-65-75	0-10-25	10-25-32	1.47-1.54-1.61	14.00-28.00-42.00	0.11-0.13-0.15	0.3-0.9-1.3	0.5-0.5-1.0	.10	.10	5	5	56
	3-48	21-30-44	6-15-29	35-55-59	1.38-1.44-1.50	4.00-9.00-14.00	0.13-0.13-0.19	1.2-2.4-3.1	0.0-0.1-0.5	.10	.10			
	48-80	40-54-70	5-15-33	22-31-34	1.42-1.53-1.64	4.00-9.00-14.00	0.16-0.18-0.20	0.6-1.2-1.8	0.0-0.1-0.5	.20	.20			
Cataula, moderately eroded	0-2	60-70-78	7-20-35	5-10-15	1.35-1.55-1.75	14.00-28.00-42.00	0.11-0.13-0.14	0.0-1.5-2.9	0.5-0.8-1.0	.24	.24	4	3	86
	2-35	20-32-40	5-16-30	35-53-60	1.30-1.45-1.60	1.40-3.00-4.00	0.08-0.09-0.16	0.0-1.5-2.9	0.0-0.1-0.5	.15	.15			
	35-48	21-40-50	10-26-35	30-34-50	1.75-1.85-1.95	0.42-0.90-1.40	0.08-0.07-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
	48-80	40-56-70	7-16-27	23-28-33	1.60-1.70-1.80	1.40-3.00-4.00	0.11-0.12-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.20	.20			
Bethlehem, moderately eroded	0-3	56-65-75	2-10-25	10-25-32	1.30-1.40-1.50	14.00-28.00-42.00	0.11-0.13-0.15	0.3-0.9-1.3	0.5-0.5-1.0	.10	.10	3	5	56
	3-7	40-54-65	6-15-30	25-31-34	1.20-1.40-1.50	4.00-9.00-14.00	0.14-0.16-0.19	0.0-1.5-2.9	0.0-0.3-0.5	.17	.17			
	7-27	25-38-44	5-19-29	35-45-55	1.30-1.40-1.50	4.00-9.00-14.00	0.08-0.10-0.14	0.0-1.5-2.9	0.0-0.3-0.5	.15	.15			
	27-80	—	—	—	—	0.01-0.20-0.42	0.00-0.00-0.01	—	—					

Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
EnD—Enon sandy loam, 10 to 15 percent slopes														
Enon	0-5	-68-	-22-	5-10- 15	1.45-1.55-1.65	14.00-28.00-42.00	0.11-0.13-0.15	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.28	.28	5	3	86
	5-38	-35-	-13-	35-52- 60	1.30-1.40-1.50	0.42-1.00-1.40	0.12-0.14-0.15	6.0- 7.5- 8.9	0.1- 0.2- 0.5	.17	.17			
	38-79	-65-	-20-	10-15- 35	1.30-1.40-1.50	4.00-9.00-14.00	0.10-0.12-0.14	0.0- 1.5- 2.9	0.0- 0.1- 0.2	.24	.24			
WkD—Wilkes sandy loam, 6 to 15 percent slopes														
Wilkes	0-7	-68-	-20-	5-13- 20	1.30-1.40-1.50	14.00-28.00-42.00	0.11-0.13-0.15	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.24	.24	2	3	86
	7-12	-60-	-10-	20-30- 45	1.40-1.50-1.60	1.40-3.00-4.00	0.15-0.18-0.20	3.0- 4.5- 5.9	0.1- 0.3- 0.5	.24	.24			
	12-24	—	—	—	—	0.10-1.00-2.00	—	—	—					
	24-79	—	—	—	—	0.00-0.01-0.10	—	—	—					

Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely

grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Absence of an entry indicates that the data were not estimated. The dash indicates no documented presence.

1284

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CIB—Cecil sandy loam, 2 to 6 percent slopes										
Cecil	B	Low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
Catauta	D	Medium	January	2.0-4.0	3.0-4.9	—	—	None	—	None
			February	2.0-4.0	3.0-4.9	—	—	None	—	None
			March	2.0-4.0	3.0-4.9	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	2.0-4.0	3.0-4.9	—	—	None	—	None
Bethlehem	D	Low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1286

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
			December	—	—	—	—	None	—	None
ClC2—Cecil sandy loam, 6 to 10 percent slopes, eroded										
Cecil	B	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
CmC2—Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded										
Cecil, moderately eroded	B	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1288

Water Features—Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
Cataula, moderately eroded	C	Medium	January	2.0-4.0	3.0-6.7	—	—	None	—	None
			February	2.0-4.0	3.0-6.7	—	—	None	—	None
			March	2.0-4.0	3.0-6.7	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	2.0-4.0	3.0-6.7	—	—	None	—	None
Bethlehem, moderately eroded	C	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1289

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
EnD—Enon sandy loam, 10 to 15 percent slopes										
Enon	C	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1290

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
WkD—Wilkes sandy loam, 6 to 15 percent slopes										
Wilkes	D	Very high	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

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2.2. Production Area Conservation Practices

A list and description of the planned and existing conservation practices to addresses the resource concerns and producer goals is included. In addition to the listing of the conservation practices, amount and year of installation, a description of the operation and maintenance are included.

All NRCS conservation practices shall be installed, operated and maintained according to NRCS conservation practice standards and associated technical specifications.

Practice and Facility Management Plan

Planned Practices	Amount	Planned Year of Installation
Critical Area Planting (342)	1.36 ac	2016
Animal Mortality Facility 316 - Composter	22' X 70'	2017
Waste Storage Facility 313 – Stacking Shed	2 X 40' X 184'	2017

Operation & Maintenance

Animal Mortality Facility (316)
An on-farm facility for the treatment or disposal of livestock and poultry carcasses.

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- Decrease non-point source pollution of surface and groundwater resources
- Reduce the impact of odors that result from improperly handled animal mortality
- Decrease the likelihood of the spread of disease or other pathogens that result from the interaction of animal mortality and predators
- To provide contingencies for normal and catastrophic mortality events

Waste Storage Facility (313)
A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.

To temporarily store wastes such as manure, wastewater, and contaminated runoff as a storage function component of an agricultural waste management system.

Stacking Shed

1. Fires can develop in stacked poultry litter through spontaneous combustion. Special precautions should be taken to prevent this from happening.
2. Pile height should not exceed 5 feet. Storing the material in separate small windrows reduces the cross sectional area and is the safest option for stacking.
3. KEEP THE LITTER DRY! Do not wet the litter in the hope of preventing a fire; just the opposite may occur. In addition, protect the litter from blowing rain.
4. Avoid placing the wet material in contact with dry material. Do not layer new litter on top of old, and do not let dead poultry compost come into contact with stored litter.
5. Do not compact the material by driving over it or packing it with equipment.
6. If litter is stored against wooden walls, limit the litter height to 4 feet.
7. Monitor temperatures at different points in the pile frequently. If temperatures exceed 190°F, or if the material is smoldering, prepare to remove material from the building. This includes notifying the local fire department to be on hand. A smoldering pile could burst into flames if exposed to air. A garden hose could be inadequate to extinguish the fire.
8. Do not store equipment in the litter storage structure.
9. At least twice per year, when the facility is empty, inspect wooden parts, hardware, or other replaceable parts that are damaged or show excessive wear or decay.
10. All disturbed areas around the facilities should be vegetated or covered with gravel to prevent erosion.
11. Warning signs, fences, guardrails, and other safety features will be installed and maintained to prevent unauthorized entry to any structure.

Critical Area Planting (342)
Establish permanent vegetation on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

- Stabilize areas with existing or expected high rates of soil erosion by water.
- Stabilize areas with existing or expected high rates of soil erosion by wind.
- Restore degraded sites that cannot be stabilized through normal methods.

Plan for Establishing Vegetation
Vegetation establishment is required around the buildings and storage structures to reduce soil erosion, this offsite nutrient and pathogen transport.

All disturbed areas including slopes of pads will be planted to permanent vegetation. If construction is during seasons not suited for planting warm or cool season grasses, temporary vegetation will be established until the recommended planting dates. The following specifications will be used to establish the grasses.

- Lime at rate of 1.5 tons per acre
- Fertilize at rate of 100 units of Nitrogen, Phosphorus, and Potassium per acre
- Mulch slopes greater that 4 to 1
- For planting dates from 1 September to 15 December
  - 40 lbs. fescue per acre
  - 10 lbs. unhulled Bermuda grass per acre
  - 10 lbs. of wheat per acre
- For planting dates from 1 March to 30 June
  - 10 lbs. of Bermuda grass per acre
  - 10 lbs. of Bahaia grass per acre
  - 10 lbs. of Browntop millet per acre

2.3. Manure Storage

Storage ID	Type of Storage	Pumpable or Spreadable Capacity	Annual Manure Collected	Maximum Days of Storage
Broiler Houses	In-house litter storage	988 Tons	988 Tons	365
SS1	Poultry manure dry stack	506 Tons	0 Tons	
SS2	Poultry manure dry stack	506 Tons	0 Tons	

2.4. Animal Inventory

Animal Group	Type or Production Phase	Number of Animals	Average Weight (Lbs)	Confinement Period	Manure Collected (%)	Storage Where Manure Will Be Stored
Broilers	Broiler	162,000	4.55	Jan Early - Dec Late	100	Broiler Houses

(1) Number of Animals is the average number of animals that are present in the production facility at any one time.
(2) If Manure Collected is less than 100%, this indicates that the animals spend a portion of the day outside of the production facility or that the production facility is unoccupied one or more times during the confinement period.

2.5. Normal Animal Mortality Management

To decrease non-point source pollution of surface and ground water resources, reduce the impact of odors that result from improperly handled animal mortality, and decrease the likelihood of the spread of disease or other pathogens, approved handling and utilization methods shall be implemented in the handling of normal mortality losses. If on-farm storage or handling of animal mortality is done, NRCS Standard 316, Animal Mortality Facility, will be followed for proper management of dead animals.

Plan for Proper Animal Mortality Management

The following narrative describes how normal animal mortality will be managed in a manner that protects surface and ground water quality.

Burial

Dig a large pit or trench as located on the plan map. Insert dead animals daily, and cover them with one to two feet of soil.

The pit should be graded so that it does not impound water. Runoff from the pit should flow into a grass filter. Note: When adequate drainage is not provided, these pits or trenches fill with water and carcasses may actually float to the surface. The water in the pit is very bacteria-laden and may be a hazard to both animal and human health. There is also high potential for ground water contamination from both bacteria and nutrients.

Burial trenches and pits must have at least a 2.0 foot separation between the bottom of the trench and groundwater.

The pits should also have a berm to divert rainfall and runoff from the site. The soil should be able to infiltrate any rainfall that falls directly into the pit.

Vectors (dogs, rats, snakes, flies, etc.) are potential problems in a burial situation. If a producer chooses this method for disposal of dead animals, the carcasses must be covered daily as to reduce vectors in and around the trench or pit.

When a burial pit is full, the site should be capped with a mound of soil so that precipitation is not allowed to collect in the closed pit. Also, the area should be grassed as to prevent erosion. The burial area should be monitored so that these conditions remain after settling of decomposing carcasses and capping material.

Composting

For proper composting, correct proportions of carbon, nitrogen, moisture, and oxygen need to be present in the mix. Common carbon sources are sawdust or wheat straw. It is desirable because of its bulking ability, which allows entry of oxygen. Other carbon sources that could be used are peanut hulls, cottonseed hulls, sawdust, leaves, etc. If lab testing of the litter or experience indicates that the carbon/nitrogen ratio is adequate (20 - 35:1 ratio), then litter alone should be sufficient for composting mortality as long as desirable bulking ability is achieved and moisture is properly managed. Moisture management is critical and must be maintained between 40 and 55 percent (40% -does not leave your hand moist when squeezed, 55% - if more than two drops drip from your hand the material is too moist).

Recipe for composting broiler mortality

INGREDIENT	VOLUME	WEIGHTS
Straw	1.0	0.10
Carcasses	1.0	1.0
Litter	1.5	1.2
Water	0.5	0.75

Compost layering procedure

a. The first layer is one foot of litter.

b. A 4-6 inch layer of carbon amendment (sawdust is preferred) is added according to the recipe

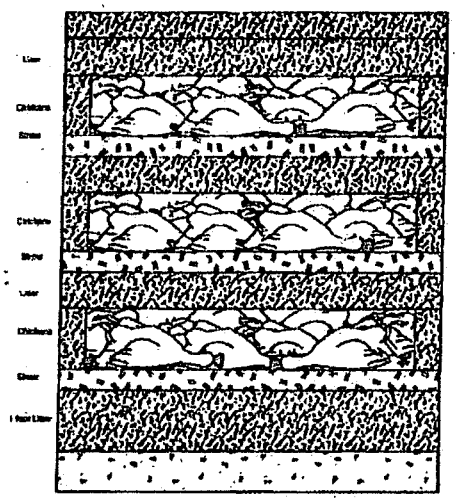
c. A layer of carcasses is added. Carcasses shall be laid side-by-side and shall not be stacked on top of one another. Carcasses placed directly on dirt or concrete floors, or against bin walls will not compost properly.

d. Water is added (uniform spray).

e. Carcasses are covered with a 6-inch layer of litter.

f. Next layer of carcasses begun with carbon amendment and above steps repeated.

g. When composter is full, cap the 6-inch layer with four additional inches.



Maintain the moisture content at 40 to 55 percent during the composting process (40% - does not leave your hand moist when squeezed, 55% will allow about one drop of water to be released when squeezed, > 55% - if more than two drops drip from your hand the material is too moist, therefore add sawdust or dry carbon source).

Temperature is the primary indicator to determine if the composting process is working properly. A minimum temperature of 130 ₒF shall be reached during the composting process. A temperature of 140 ₒF is optimum; however, temperatures may range up to 160 ₒF. If the minimum temperature is not reached, the resulting compost shall be incorporated immediately after land application or recomposted by turning and adding moisture as needed. Compost managed at the required temperatures will favor destruction of any pathogens and weed seeds.

Good carcass compost should heat up to the 140° range within a few days. Failure of the compost material to heat up properly normally results from two causes. First, the nitrogen source is inadequate (example wet or leached litter). A pound of commercial fertilizer spread over a carcass layer will usually solve this problem. Secondly, the compost fails when too much water has been added and the compost pile becomes anaerobic. An anaerobic compost bin is characterized by temperatures less than 120°, offensive odors, and black oozing compound flowing from the bottom of the compost bin. In this case a drier bulking / carbon amendment should be added to dry the mix. Then, the material should be remixed and composted.

It is possible, though unlikely, for the temperature to rise above the normal range and create conditions suitable for spontaneous combustion. If temperature rises above 170° F, the material should be removed from the bin and cooled, spread on the ground to a depth not to exceed six inches in an area away from buildings. Water should be added only if flames occur. If temperature falls significantly during the composting period and odors develop, or if

material does not reach operating temperature, investigate piles for moisture content, porosity, and thoroughness of mixing.

After this first stage process, the material should be turned into a second bin and allowed to go through a second heat process. For larger birds, especially turkeys, a third turning may be necessary for complete degradation of the birds. Typically, the process can be considered "done" within 21-28 days from the time the compost is filled for broilers. For turkeys, the process usually requires about 60 days. After the heat process, curing period of one to three months is usually required before the material is stable.

Compost may be land applied after the secondary or tertiary composting. If any animal parts are still in the mix, the material must be incorporated. If immediate application is not possible the material should be stored using the same requirements as that of stored litter in the Stacking Shed O&M statement. Inspect compost structure at least twice annually when the structure is empty. Replace any broken or badly worn parts or hardware. Patch concrete floors and curbs as necessary to assure water tightness. Examine roof structures for structural integrity and leaks. Inspections shall be documented on the attached worksheet.

2.6. Planned Manure Exports off the Farm

Month-Year	Manure Source	Amount	Receiving Operation
Mar 2017	SS1	490 Tons	L & M Litter Brokers
Mar 2017	SS2	500 Tons	L & M Litter Brokers
Apr 2018	Broiler Houses	57 Tons	L & M Litter Brokers
Apr 2018	SS1	506 Tons	L & M Litter Brokers
Apr 2018	SS2	506 Tons	L & M Litter Brokers
Mar 2019	SS1	408 Tons	L & M Litter Brokers
Mar 2019	SS2	500 Tons	L & M Litter Brokers
Mar 2020	SS1	490 Tons	L & M Litter Brokers
Mar 2020	SS2	500 Tons	L & M Litter Brokers

2.7. Planned Manure Imports onto the Farm

Month-Year	Manure's Animal Type	Amount	Originating Operation	Location

(None)

2.8. Planned Internal Transfers of Manure

Month-Year	Manure Source	Amount	Manure Destination
Jun 2016	Broiler Houses	65 Tons	SS1
Sep 2016	Broiler Houses	143 Tons	SS1
Dec 2016	Broiler Houses	65 Tons	SS1
Mar 2017	Broiler Houses	217 Tons	SS1
Mar 2017	Broiler Houses	500 Tons	SS2
May 2017	Broiler Houses	65 Tons	SS1
Aug 2017	Broiler Houses	116 Tons	SS1
Nov 2017	Broiler Houses	65 Tons	SS1
Jan 2018	Broiler Houses	193 Tons	SS1
Apr 2018	Broiler Houses	67 Tons	SS1
Apr 2018	Broiler Houses	506 Tons	SS2
Jun 2018	Broiler Houses	65 Tons	SS1
Sep 2018	Broiler Houses	116 Tons	SS1
Dec 2018	Broiler Houses	65 Tons	SS1
Mar 2019	Broiler Houses	162 Tons	SS1
Mar 2019	Broiler Houses	500 Tons	SS2
May 2019	Broiler Houses	65 Tons	SS1
Aug 2019	Broiler Houses	116 Tons	SS1
Nov 2019	Broiler Houses	65 Tons	SS1
Jan 2020	Broiler Houses	193 Tons	SS1
Mar 2020	Broiler Houses	51 Tons	SS1
Mar 2020	Broiler Houses	500 Tons	SS2

(1) 65 ton events are crustings
(2) Events occurring in March and April are full cleanouts
(3) All other events are windrow cleanouts.

Section 3. Farmstead Safety and Security

3.1. Emergency Action Plan

This plan will be implemented in the event that animal by-products from your operation are leaking, overflowing, running off site or there is imminent danger that such may occur from damage or failure of the system or a threatening natural occurrence, such as a hurricane. You should not wait until manure reach surface water or leave your property to consider that you have a problem. You should make every effort to ensure that this does not happen. This plan should be posted in an accessible location for all employees at the facility. The following are some action items you should take.

1. **Threatening Natural Occurrences**
   Prevent or minimize damage caused by threatening natural occurrences, such as hurricanes or strong storms associated with approaching fronts - actions include:

   a. Do not spread manure on fields just prior to an approaching storm.
   b. Do not spread manure on fields that flood during high rainfall events.
   c. Notify State Veterinary Office - Animal Emergency Response Coordinator (See Table below) or Local Animal Emergency Response Coordinator for relocation of animals if needed.

2. **Personal injury**

   a. Stop all other activities to deal with the emergency.
   b. Call for help (See Table below).

3. **Catastrophic deaths – Disease Related**
   a. Notify State Veterinary Office.
   b. Limit exposure to other animals.
   c. Prevent visitation by unnecessary people.
   d. Dead animals should be moved into a DHEC approved transport vehicle or a DHEC approved storage area or bin.
   e. Record date of catastrophic deaths, number of deaths, method and location of disposal.

4. **Catastrophic deaths – Disaster Related**
   a. Notify State Veterinary Office - Animal Emergency Response Coordinator immediately. (See Table below)
   b. Notify the integrator, Amick Farms, or farm manager to remove useable animals.
   c. Dispose of mortality in the manner given in this CNMP for emergency dead animal disposal.
   d. Record date of catastrophic deaths, number of deaths, method and location of disposal.

5. **Land Application Manure/Waste Discharge Emergency**
   a. Stop all other activities to deal with the emergency.
   b. Assess the extent of the emergency and determine how much help is needed.
   c. Call for help if needed.
   d. If spilled on the road, call the sheriff's office for traffic control and clean the spill immediately from the road and roadside if needed.
   e. Contain the spill or runoff from entering the stream or waterway using straw bales, saw dust, or soil material.
   f. Prevent further runoff by incorporating the waste.
   g. Initiate additional containment measures, corrective measures, or property restoration measures as directed by emergency agency officials.

6. **Manure Removal**
   a. Place manure in stacking structure if available. Do not stack old manure next to new or wet manure next to dry.
   b. Cover any manure stacks for temporary storage with plastic and weight down the edges. Cut a 4" diameter hole in the top and cover the hole with screen wire.

7. **Fire**
   a. Stop all other activities to deal with the emergency.
   b. Try to extinguish the fire with the appropriate rated fire extinguishers.
   c. If fire cannot be contained, call for help (See Table below)

8. **Assess the extent of the spill and note any obvious damages.**
   a. Did the by-product reach any surface waters?
   b. Approximately how much was released and for what duration?
   c. Any damage noted, such as employee injury, fish kills, or property damage?
   d. Did the spill leave the property?
   e. Did the spill have the potential to reach surface waters?
   f. Could a future rain event cause the spill to reach surface waters?
   g. Are potable water wells in danger (either on or off of the property)?
   h. How much reached surface waters?

9. **Provide the following information when reporting an emergency.**
   a. Your name and phone number.
   b. Directions to the farm.
   c. Description of emergency.
   d. Estimate of the amounts, area covered, and distance traveled.
   e. Has manure reached surface waters or major field drains?
   f. Is there any obvious damage: employee injury, fish kill, or property damage?
   g. What is currently in progress to contain situation?

10. **Implement procedures** as advised by SC DHEC and technical assistance agencies to rectify the damage, repair the system, and reassess the manure management plan to keep problems with release of manure from happening again.

11. **Documentation.** The following items shall be documented in writing and filed with the Emergency Action Plan for future reference and emergency response training.
   a. Date and time, location of spill, affected landowners.
   b. Affect of manure spill on any surface water body or potable water well.
   c. Approximately how much manure was released and for what duration.
   d. Amount of manure, if any, that left the farm property.
   e. Any damage, such as personal injury, fish kill, property damage.
   f. Cause of the spill.
   g. Procedure to handle the emergency.
   h. Clean up efforts.
   i. List of authorities called, those that responded, and the time it took for them to respond.
   j. Recommendations to prevent a reoccurrence

3.2. Biosecurity Measures

Biosecurity is critical to protecting livestock and poultry operations. Visitors must contact and check in with the producer before visiting the operation or entering any production or storage facility.

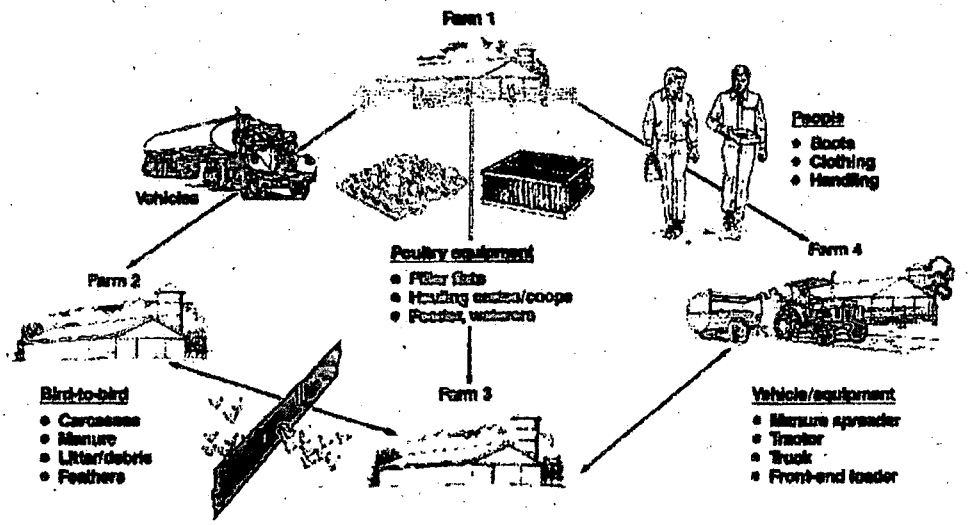
The following narrative describes how animal veterinary wastes (including medical equipment, empty containers, sharps and expired medications) will be managed at the operation.

Steps to Take to Avoid Disease Spread - Poultry

To reduce the risk of introducing disease into a flock, maintain a biosecurity barrier (physical barrier, personal hygiene, and equipment sanitation) between wildlife, poultry facilities, other commercial avian facilities, and pet birds. Some examples of good biosecurity practices include:

a. Permit only essential workers and vehicles on the premises.
b. Provide clean clothing and a disinfection procedure for employees and visitors. Know your visitor's travel history.
c. Clean and disinfect vehicles at the farm entrance.
d. Avoid visiting other avian facilities.
e. Do not keep pet birds.
f. Protect the flock from exposure to wild birds.
g. Control movement associated with the disposal of bird carcasses, litter, and manure.
h. Quarantine new additions to the flock. Never allow people or material to move from the quarantined birds to the flock.
i. Report signs of disease to your veterinarian.

How Diseases Spread



3.3 Emergency Contact Information

Farm Information

Farm Name	David Coggins Broilers
Address	Lisbon Rd. Near Hwy 72 Mountville, SC 29370
Farm Phone	864-981-5604
Permit #	N/A
Directions to Farm	Head E on Mountville Rd. and turn left onto SC-72 E, drive 1.8 miles. Turn left onto Lisbon Rd. drive 0.3 miles the farm is on the right.

Farm Contacts

	Name	Phone
Farm Owner/Manager	David Coggins	864-981-5604
Fire or Ambulance	**911**	**911**

Agency Contacts

Contact Agency	Person	Day Phone	Emergency Number
DHEC	**Regional Office**	864-833-5883	**1-888-481-0125**
State Veterinarian Emergency	**Animal Response Coordinator**		**1-803-788-2260 ext. 700**
Sheriff's Office	**Laurens County Sheriff**	864-984-4967	**911**
NRCS	**County Office**	864-984-6921	
Clemson Extension	**County Office**	864-984-2514	
Integrator	**Amick Farms**	864-923-2366	

Property Owner Contacts

Name	Location of Property	Day Phone
David Coggins	Headquarters	864-981-5604

3.4 Vector and Odor Abatement Plan

A site specific vector/odor abatement plan for Amick Farms producers is included on the following pages

Amick Farms Odor and Vector Abatement Plan for David Coggins Broilers

Odor Abatement Plan

Some of the potential sources of odors in and around the poultry houses may include: wet litter from leaky waterers, poultry bedding that is overloaded with manure (too little bedding relative to the amount of manure produced by the birds), spoiled or moldy feed, dust from feeders, bedding and animals, exhaust ventilation air, gaseous emissions of ammonia or hydrogen sulfide, uncovered manure piles, poorly managed stacking sheds, poorly managed or located covered manure piles, improper land application of manure, and improper disposal of dead birds. These sources may cause poor air quality in and around the facility and potentially impact the health of the farm workers, animals, and the surrounding community. Therefore, it is imperative that the farm utilizes the best management practices to control dust and odors before they become a problem.

This operation has developed this Odor Abatement Plan in order to minimize the formation of odor and dust, prevent the release of odor and dust into the atmosphere, and avoid the transportation of dust and odor to any nearby receptors in the community. Many of the potential sources of odor can be minimized by implementing some of the following best management practices for odor control: provide adequate bedding for each flock of birds, remove manure from the building as often as possible, repair all leaky waterers or pipes, clean feeding equipment regularly, remove spoiled feed regularly, remove dead animals and dispose of them promptly, cover litter stockpiles completely with an appropriate anchored and vented cover immediately after removal, avoid excess moisture in stacking sheds since excess moisture increases the amount of odor generated due to anaerobic decomposition, make sure ventilation fans are cleaned regularly and that airflow rates are adequate for the season and stage of growth, avoid orienting buildings so that ventilation fans blow exhaust air toward neighbors or adjacent roadways, land-apply manure at the appropriate times, cover manure when transporting it off site to prevent dust and spillage, incorporate manure into soil as soon as possible, land apply manure in the morning on sunny days, apply manure when winds are blowing away from neighbors, apply manure on weekdays when neighbors have a higher probability of being away from home, and finally, always contact close neighbors prior to spreading to avoid spoiling their outdoor activities.

Some specific actions that may be taken to correct an odor problem include: drying, aerating, or composting the manure; incorporating manure into the soil; or using an odor additive to eliminate the odor.

A ventilation system will be installed in the proposed poultry houses. The ventilation system will serve to maintain an adequate supply of fresh air for the birds, remove excess moisture during cold weather, remove combustion gases from heaters, provide adequate temperature control during mild weather, and limit a temperature rise during hot weather. Managing the temperature and relative humidity in the houses is an important factor in controlling ammonia levels within the house as well as odors from the poultry houses. Odors can be carried on the dust particles from a poultry facility. Dust control in the buildings is an important factor in reducing the

amount of odor at the facility. Dust control can also improve the indoor air quality of the poultry barns, which is important for animal health and worker health and safety. Dust in the buildings can result from the feed, manure, wood shavings, and animal activity. Methods to reduce dust include: cleaning and disinfecting the interior of the building between flocks; adding oil to dry ration feeds; performing proper and timely maintenance on feeders, augers, and other feed handling equipment; and managing the relative humidity (RH) in the poultry houses so that the air is not too dry (low RH).

Artificial breaking walls, trees, and other vegetation can also help to filter and disperse dust and odors from poultry houses.

Specific actions for the abatement of odor at this facility are outlined in the Odor & Vector Abatement Plan approved by the operation's integrator. The specific action plan is included in Appendix C of this plan.

Vector Abatement Plan

Some of the types of vectors that may present a problem at a poultry farm are flies, rodents, darkling beetles, mosquitoes, dogs, and birds. Most vector attraction can be greatly minimized with proper management and sanitation. The following best management practices may be utilized to prevent vector attraction: remove all excess building materials, remove any excess feed from the houses or around feed bins, keep grass and weeds mowed around the facilities, keep all buildings free of trash and debris, appropriately use and service bait stations, properly dispose of dead animals in a timely manner, and eliminate any standing water in the area surrounding the facility.

The best management practices that may be utilized to prevent vector attraction when land-applying manure are to incorporate manure immediately after application and cover any manure that may be temporarily stored prior to land application. In order to reduce the vector attraction for rodents, it is imperative to eliminate any areas which allow for harboring of rodents and prevent feed spillage. Repair any damaged feeders and keep them properly adjusted so excess feed does not accumulate in feeder bowl, trough, or around the base of the feeder. Waste feed (wet or contaminated feed) should be properly utilized or discarded. Waterers should be properly maintained and repaired to prevent leaks. Unused pens should have all feed removed and feeders cleaned. Good sanitation practices for manure management should be followed and excess manure packs along walls and curtains should be removed. The producer should conduct biweekly rodent monitoring programs. This should include all animal production buildings, feed bins, storage rooms, and office buildings. Inspect the inside and outside of the animal production buildings for signs of rodents (rodent droppings, digging activities, nests, etc.). If a bait system is used, it should be routinely inspected and refilled. If pesticides or other chemical treatments are utilized to control vectors, care should be taken to prevent resistance to the chemical. Rotation of different chemicals may prevent resistance. The integrator should be notified of any chemical or pesticide applications prior to their utilization. Care will also be taken to ensure the proper storage and disposal of any unused chemicals on this farm.

The local Clemson University Extension Service office can provide additional information on proper disposal of pesticides and chemicals. The local Clemson Extension Agent for this farm is located in Lexington SC, and can be reached at (864)923-2366.

Manure that contains fly larvae and fly pupae will be disked into the ground immediately or be treated with an appropriate fly control method. If the manure application on a land application area creates a fly problem for the community, the producer will be responsible for the control of all flies resulting from the application of the manure.

Using best management practices (BMP), such as those listed above should be utilized to prevent vector problem. However, if a vector problem occurs, corrective actions should be taken and the BMP should be closely reviewed and updated to prevent these problems in the future. The

Richard Nichols
Amick Farms LLC

Live Operations Czar
Carolina Division
Monetta, SC

(803)532-1480

3.5 Vector Control and Abatement

Management and sanitation are the real keys to preventing or eliminating any vectors' problems. If these weaknesses are not addressed, the problems will recur. Pesticides are the final tools in controlling the problem.

Most problems with insects (such as flies), rodents (such as rats and mice) and scavenging animals, (such as dogs, cats, foxes, possums, raccoons, etc.) can be minimized by keeping the facility and surroundings clean and properly maintained. This includes:

- Removing all excess building materials.
- Removal of any excess feed from the houses or around bins.
- Keeping grass and weeds mowed
- Keeping all buildings free of trash and debris.
- The proper use and servicing of bait stations.
- Proper and timely disposal of dead animals.
- Keeping all manure cleaned up caused by spillage from around the houses. Keep all temporary stored manure covered and dry.
- Any spillage of feed should be cleaned as soon as possible and all feed will be kept dry. Covers on feed storage bins should be used. Drainage away from all feed storage containers should be provided to reduce moisture accumulation.

Actions to be taken for the abatement of an insect problem:

- Mow vegetation around facility.
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Check for leaks from waterers, etc. and repair as needed.
- Remove any garbage or trash from the facility.
- Remove and dispose of all dead animals immediately and appropriately.
- Use approved baits, poisons, etc. as appropriate.

Actions to be taken for the abatement of a rodent problem:

- Mow vegetation around facility.
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Remove all excess building materials.
- Remove any garbage or trash from the facility.
- Check for damage or leaks from waterers, etc. and repair as needed.
- Remove and dispose of all dead animals immediately and appropriately.
- Use approved baits, poisons, etc. as appropriate.

Actions to be taken for the abatement of scavenging animal problems:

- Remove and dispose of all dead animals immediately and appropriately.
- Mow vegetation around facility
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Remove all excess building materials.
- Remove any garbage or trash from the facility.
- Check for digging activities that could damage or weaken buildings and repair as needed.
- Contact the proper officials for additional control measures.

For more details on specifics (rats, filth flies, etc.) information may be obtained from the Clemson Agricultural Extension Offices or the NRCS office. A source of information is also available from Clemson's South Carolina Confined Animal Manure Manager's program, in Chapter 10 of the applicable species, available at: http://www.clemson.edu/camm/.

3.6 Air Quality

NRCS does not have specific technical criteria for these considerations that are required for CNMPs. However, the following items may be considered when addressing Air Quality, most Air Quality issues are associated with odor.

Air quality in and around structures, waste storage areas, and treatment sites may be impaired by excessive dust, gaseous emissions such as ammonia, and odors. Poor air quality may impact the health of workers, animals, and persons living in the surrounding areas. Ammonia emissions from animal operations may be deposited to surface waters, increasing the nutrient load to these regions. Proper siting of structures and waste storage facilities can enhance dispersion and dilution of odorous gases. Enclosing waste storage or treatment facilities can reduce gaseous emissions from AFOs in areas with residential development in the region.

For an odor to be detected downwind, odorous compounds must be (a) formed, (b) released to the atmosphere, and (c) transported to the receptor site. These three steps provide the basis for most odor control. If any one of the steps is inhibited, the odor will diminish.

Growing and Storage Facilities

Odor problems can be prevented or reduced through adequate drainage, runoff management, proper care to keep animals and animal facilities clean and dry, and appropriate animal by-product removal, handling, and transport.

Locate animal by-product management facilities and utilization areas as far as practical from neighboring residences, recreational areas, or other conflicting land uses. Avoid sites where radical shifts in air movement occur between day and night, such as those near large bodies of water or steep topography. A component's location in relation to surrounding topography may also strongly influence the transfer of odor because of daily changes in temperature and resulting airflow. To provide optimum conditions, prevailing winds should carry odors away from nearby residences.

Providing conditions or design features that alter the microclimate around specific components can further mitigate odor. An abundance of sunlight and good ventilation helps keep livestock and poultry areas dry and relatively odor free. Southern exposure with adequate slope to provide drainage for runoff is a preferred condition. Keeping animal by-products aerated and at appropriate moisture and temperature levels slows the development of anaerobic conditions and reduces odor.

Mitigation of Odor

Odor-causing substances from animal by-products are frequently attracted to dust particles in the air. Collecting or limiting the transport of dust aids in reducing odor. Vegetation is very effective in trapping dust particles. For example, pine trees planted downwind trap odor-laden dust particles and can provide a visual barrier to the animal operation. In addition, vegetation, landform, and structures can channel wind to carry odors away from nearby residences.

Chemical additives for the control or reduction of odors may be added to the bedding in the house or during removal.

3.7. Catastrophic Animal Mortality Management

Refer to NRCS standards, or state guidance, regarding appropriate catastrophic animal mortality handling methods.

Plan for Catastrophic Animal Mortality Management

The following narrative describes how catastrophic animal mortality will be managed in a manner that protects surface and ground water quality. All national, state and local laws, regulations and guidelines that protect soil, water, air, plants, animals and human health must be followed.

Burial

Dig a large pit or trench as located on the plan map. Insert dead animals daily, and cover them with one to two feet of soil.

The pit should be graded so that it does not impound water. Runoff from the pit should flow into a grass filter. Note: When adequate drainage is not provided, these pits or trenches fill with water and carcasses may actually float to the surface. The water in the pit is very bacteria-laden and may be a hazard to both animal and human health. There is also high potential for ground water contamination from both bacteria and nutrients.

Burial trenches and pits must have at least a 2.0 foot separation between the bottom of the trench and groundwater.

The pits should also have a berm to divert rainfall and runoff from the site. The soil should be able to infiltrate any rainfall that falls directly into the pit.

Vectors (dogs, rats, snakes, flies, etc.) are potential problems in a burial situation. If a producer chooses this method for disposal of dead animals, the carcasses must be covered daily as to reduce vectors in and around the trench or pit.

When a burial pit is full, the site should be capped with a mound of soil so that precipitation is not allowed to collect in the closed pit. Also, the area should be grassed as to prevent erosion. The burial area should be monitored so that these conditions remain after settling of decomposing carcasses and capping material.

Important! In the event of catastrophic animal mortality, contact the following authority before beginning carcass disposal:

State Veterinarian and Director
Boyd H. Parr, DVM
803-788-2260

3.8. Chemical Handling

If checked, the indicated measures will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

	This is not a regulatory-agency permitted facility. This section does not apply.

	Measure
X	All chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations. Pesticides and associated refuse are disposed of in accordance with the FIFRA label.
	Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.
	Chemical storage areas are covered to prevent chemical contact with rain or snow.
	Emergency procedures and equipment are in place to contain and clean up chemical spills.
	Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.
	All chemicals are custom applied and no chemicals are stored at the operation. Equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.

Section 4. Land Treatment

All litter will be exported by a licensed manure broker.

Section 5. Soil and Risk Assessment Analyses

All litter will be exported by a licensed manure broker.

Section 6. Nutrient Management

6.1. Manure Nutrient Analyses

Manure Source	Dry Matter (%)	Total N	NH_4-N	Total P_2O_5	Total K_2O	Avail. P_2O_5	Avail. K_2O	Units	Analysis Source and Date
Broiler Houses		36.0		35.0	30.0	35.0	30.0	Lb/Ton	AWFMH Estimate
SS1		36.0		35.0	30.0	35.0	30.0	Lb/Ton	AWFMH Estimate
SS2		36.0		35.0	30.0	35.0	30.0	Lb/Ton	AWFMH Estimate

(1) Entered analysis may be the average of several individual analyses.
(2) South Carolina assumes that 100% of manure phosphorus and 100% of manure potassium is crop available. First-year per-acre nitrogen availability for individual manure applications is given in the Planned Nutrient Applications table. For more information about nitrogen availability in South Carolina, see Chapter 3b, "Poultry Manure Production and Nutrient Content," Clemson University (http://www.clemson.edu/extension/livestock/camm/camm_files/poultry/pch3b_00.pdf).

6.2. Manure Inventory Annual Summary

Manure Source	Plan Period	On Hand at Start of Period	Total Generated	Total Imported	Total Transferred In	Total Applied	Total Exported	Total Transferred Out	On Hand at End of Period	Units
Broiler Houses	May '16 - Apr '17	83	988	0	0	0	0	990	81	Ton
SS1	May '16 - Apr '17	0	0	0	490	0	490	0	0	Ton
SS2	May '16 - Apr '17	0	0	0	500	0	500	0	0	Ton
All Sources	**May '16 - Apr '17**	**83**	**988**	**0**	**990**	**0**	**990**	**990**	**81**	**Ton**
Broiler Houses	May '17 - Apr '18	81	988	0	0	0	57	1,012	0	Ton
SS1	May '17 - Apr '18	0	0	0	506	0	506	0	0	Ton
SS2	May '17 - Apr '18	0	0	0	506	0	506	0	0	Ton
All Sources	**May '17 - Apr '18**	**81**	**988**	**0**	**1,012**	**0**	**1,069**	**1,012**	**0**	**Ton**
Broiler Houses	May '18 - Apr '19	0	988	0	0	0	0	908	81	Ton
SS1	May '18 - Apr '19	0	0	0	408	0	408	0	0	Ton
SS2	May '18 - Apr '19	0	0	0	500	0	500	0	0	Ton
All Sources	**May '18 - Apr '19**	**0**	**988**	**0**	**908**	**0**	**908**	**908**	**81**	**Ton**
Broiler Houses	May '19 - Apr '20	81	988	0	0	0	0	990	79	Ton
SS1	May '19 - Apr '20	0	0	0	490	0	490	0	0	Ton
SS2	May '19 - Apr '20	0	0	0	500	0	500	0	0	Ton
All Sources	**May '19 - Apr '20**	**81**	**988**	**0**	**990**	**0**	**990**	**990**	**79**	**Ton**

6.3. Plan Nutrient Balance

	N (Lbs)	P_2O_5 (Lbs)	K_2O (Lbs)
Total Manure Nutrients on Hand at Start of Plan[1]	2,988	2,905	2,490
Total Manure Nutrients Collected[2]	142,272	138,320	116,560
Total Manure Nutrients Imported[3]	0	0	0
Total Manure Nutrients Exported[4]	142,434	138,478	116,695
Total Manure Nutrients Gained/Lost in Transfer[5]	0	0	0
Total Manure Nutrients on Hand at End of Plan[6]	2,826	2,748	2,355
Total Manure Nutrients Applied[7]	0	0	0
Available Manure Nutrients Applied (Utilized by plan's crops)[8]	0	0	0
Available Manure Nutrients Applied (Not utilized by plan's crops)[9]	0	0	0
Commercial Fertilizer Nutrients Applied (Utilized by plan's crops)[10]	0	0	0
Commercial Fertilizer Nutrients Applied (Not utilized by plan's crops)[11]	0	0	0
Available Nutrients Applied (Manure and fertilizer; utilized by plan's crops)[12]	0	0	0
Nutrient Utilization Potential[13]	0	0	0
Nutrient Balance of Spreadable Acres[14*]	0	0	0
Average Nutrient Balance per Spreadable Acre per Year[15*]	0	0	0

1. Values indicate total manure nutrients present in storage(s) at the beginning of the plan.
2. Values indicate total manure nutrients collected on the farm.
3. Values indicate total manure nutrients imported onto the farm.
4. Values indicate total manure nutrients exported from the farm to an external operation.
5. Values indicate changes in total manure nutrients due to internal transfers between storage units with differing analyses.
6. Values indicate total manure nutrients present in storage(s) at the end of plan.
7. Values indicate total nutrients present in land-applied manure. Losses due to rate, timing and method of application are not included in these values.
8. Values indicate available manure nutrients applied on the farm based on rate, time and method of application. These values are based on the total manure nutrients applied (row 7) after accounting for state-specific nutrient losses due to rate, time and method of application. Nutrients which will not be utilized by crops in the plan (row 9) are excluded from these values.
9. Values indicate manure nutrients applied that will be utilized by crops outside the plan.
10. Values indicate nutrients applied as commercial fertilizers and nitrates contained in irrigation water. Nutrients that will not be utilized by crops in the plan (row 11) are excluded from these values.
11. Values indicate nutrients applied as commercial fertilizer which will be utilized by crops outside the plan.
12. Values are the sum of available manure nutrients applied (row 8) and commercial fertilizer nutrients applied (row 10).
13. Values indicate nutrient utilization potential of crops grown. For N the value generally is based on crop N recommendation for non-legume crops and crop N uptake or other state-imposed limit for N application rates for legumes. P_2O_5 and K_2O values generally are based on fertilizer recommendations or crop removal (whichever is greatest).
14. Values indicate available nutrients applied (row 12) minus crop nutrient utilization potential (row 13). Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
15. Values indicate average per acre nutrient balance. Values are calculated by dividing nutrient balance of spreadable acres (row 14) by the number of spreadable acres in plan and by the length of the plan in years. Negative values indicate additional average per acre nutrient utilization potential and positive values indicate average per acre over-application.

* Non-trivial, positive values for N indicate that the plan was not properly developed. Negative values for N indicate additional nutrient utilization potential which may or may not be intentional. For example, plans that include legume crops often will not utilize the full N utilization potential for legume crops if manure can be applied to non-legume crops that require N for optimum yield. Positive values for P_2O_5 and/or K_2O do not necessarily indicate that the plan was not developed properly. For example, producers may be allowed to apply N-based application rates of manure to fields with low soil test P values or fields with a low potential P-loss risk based on the risk assessment tool used by the state. Negative values for P_2O_5 and K_2O indicate that planned applications to some fields are less than crop removal rates.

Section 7. Feed Management

Feed management activities may be used to reduce the nutrient content of manure, which may result in less land being required to effectively utilize the manure. Feed management activities may be dealt with as a planning consideration and not as a requirement that addresses specific criteria; however, AFO owners/operators are encouraged to incorporate feed management as part of their nutrient management strategy. Specific information and recommendations should be obtained from Land Grant Universities, industry, the Agricultural Research Service, or professional societies such as the Federation of Animal Science Societies (FASS) or American Registry of Professional Animal Scientists (ARPAS), or other technically qualified entities. Specific feed management activities to address nutrient reduction in manure may include phase feeding, amino acid supplemented low crude protein diets, and the use of low phytin phosphorus grain and enzymes, such as phytase or other additives. Feed management can be an effective approach to addressing excess nutrient production and should be encouraged; however, it is also recognized that feed management may not be a viable or acceptable alternative for all AFOs. A professional animal nutritionist should be consulted before making any recommendations associated with feed ration adjustment.

Any significant changes that would result in nutrient changes in the manure will require a re-evaluation of this plan (CNMP). Feed rations are formulated and provided by Amick Farms.

Section 8. Other Utilization Options

All litter will be exported by L & M Litter Brokers (19,463-AG). A manure broker agreement is included on the following page.

D H E C
PROMOTE PROTECT PROSPER

AGRICULTURE FACILITY
PUBLIC NOTICE OF INTENT TO APPLY FOR AN AGRICULTURAL PERMIT

An agricultural animal growing operation is proposed by the following:

Permit Applicant: David R Coggins

County: Laurens

Location: Near intersection of Lisbon Rd + Hwy 72

Number of Animal Barns Proposed: 6 Animal type: Broilers

Type of manure treatment/storage proposed: Export upon clean out

This Public Notice of Intent to Construct is to inform you, as an adjoining property owner or a property owner within 1,320 feet of the proposed facility, that an agricultural facility is proposed to be built near your property. The signing of this form only indicates that you are aware of the proposed farm construction. The signing of this form **DOES NOT** waive any legal rights that a property owner has concerning the Department's permitting process in this matter. Nor does signing of this form constitute making a comment to the Department. Also, if the Department's permit decision is appealed, the signing of this form does not mean that the property owner cannot participate in the appeal process. Participation in the appeal process will depend upon your legal standing in the matter.

Please Print (except for signature)

Name: Heath Coggins

Address: 113 Moreland Ave
Laurens SC 29360

Phone #: 864-872-4098

Signature:

Date: 6/1/16

RECEIVED
SEP 22 2016
Stormwater, Construction & Agricultural Permitting Division

Refusal to sign this form will not prohibit the Department from making a permit decision on the proposed facility. If you refuse to sign this form, the permit applicant will complete this form and write "refused to sign" in the signature block. If you have objections to the construction of this facility, you may address specific objections/issues, in writing to: SCDHEC, Industrial, Agricultural & Stormwater Permitting Division, 2600 Bull Street, Columbia, SC 29201. The Department will consider all written comments in making the permit decision. All persons submitting comments will be notified of the permit decision made by the Department. Please note that the Department is not involved in property values, zoning or land use issues as these are local issues, which must be addressed by local governments. Please contact your local county or municipal officials for any concerns on these issues.

White and Yellow Copies: Submitted to DHEC; Pink Copy: Farmer; Orange Copy: Adjoining Property Owner

DHEC
PROMOTE PROTECT PROSPER

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Address: 113 Moorland Ave
Laurens SC 29360

Phone #: 864-872-4098

Signature:

Date: 6/1/16

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White and Yellow Copies: Submitted to DHEC; Pink Copy: Farmer; Orange Copy: Adjoining Property Owner

DHEC 3579 (08/2002) SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

DHEC_001023

1321

D. H. E. C.
PROMOTE. PROTECT. PROSPER.

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Please Print (except for signature)

Name: Dunlap Home Place 480-00-00-002

Address: 3173 Hagerty Dr. Chaleston, SC 29414

RECEIVED
SEP 22 2016
Stormwater, Construction & Agricultural Permitting Division

Phone #:

Signature: Refused to sign

Date:

Refusal to sign this form will not prohibit the Department from making a permit decision on the proposed facility. If you refuse to sign this form, the permit applicant will complete this form and write "refused to sign" in the signature block. If you have objections to the construction of this facility, you may address specific objections/issues, in writing to: SCDHEC, Industrial, Agricultural & Stormwater Permitting Division, 2600 Bull Street, Columbia, SC 29201. The Department will consider all written comments in making the permit decision. All persons submitting comments will be notified of the permit decision made by the Department. Please note that the Department is not involved in property values, zoning or land use issues as these are local issues, which must be addressed by local governments. Please contact your local county or municipal officials for any concerns on these issues.

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Please Print (except for signature)

Name: City of Austin 510-00-00-003

Address: 1180 Peachtree St. NE STE 1810 Atlanta, GA 30309

Phone #: _____

RECEIVED

SEP 2 2 2016

Stormwater, Construction & Agricultural Permitting Division

Signature: Refused to sign

Date: _____

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Please Print (except for signature)

Name: Walter Ewell LLC. 511-00-00-007

Address: 3173 D Hagerty Dr. Chealeston, SC 29414

RECEIVED
SEP 22 2016
Stormwater, Construction & Agricultural Permitting Division

Phone #:

Signature: Refused to sign

Date:

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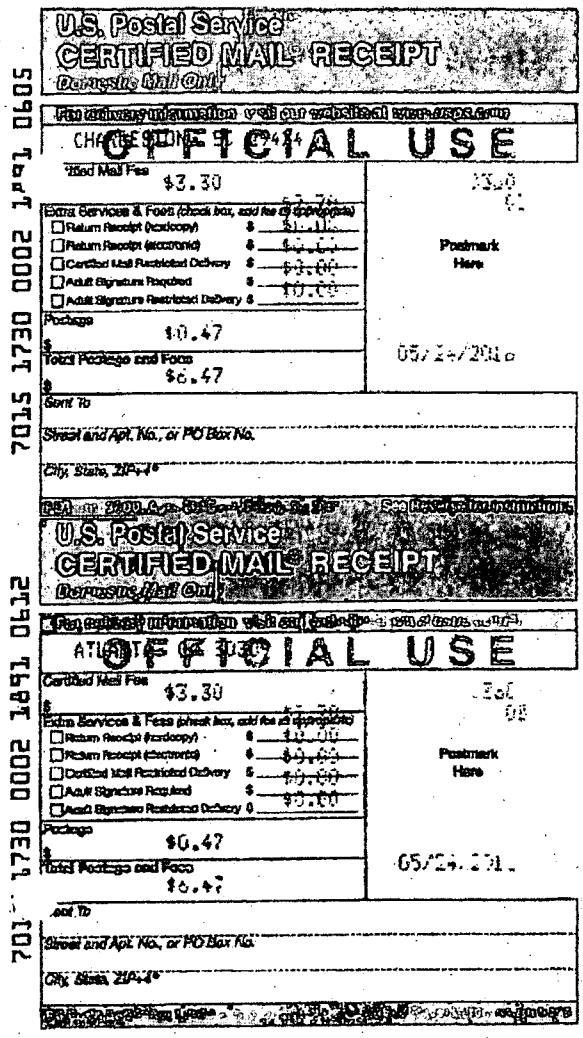

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Certified Mail Fee $3.30

Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $
- Return Receipt (electronic) $
- Certified Mail Restricted Delivery $
- Adult Signature Required $
- Adult Signature Restricted Delivery $

Postage $0.47

Total Postage and Fees $6.47

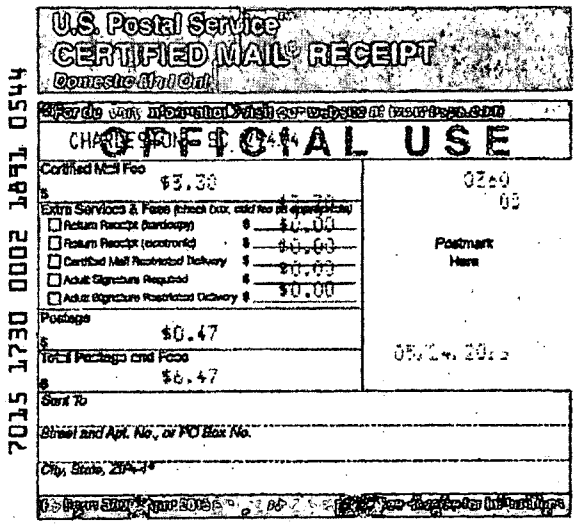
Postmark Here

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

7015 1730 0002 1891 0544



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- Return Receipt (electronic) $
- Certified Mail Restricted Delivery $
- Adult Signature Required $
- Adult Signature Restricted Delivery $

Postage $0.47

Total Postage and Fees $6.47

Postmark Here

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

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OFFICIAL USE

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- Certified Mail Restricted Delivery $
- Adult Signature Required $
- Adult Signature Restricted Delivery $

Postage $0.47

Total Postage and Fees $6.47

Postmark Here

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

7015 1730 0002 1891 0612

1328

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Walter Ewell LLC
3173 D Hagerty Dr.
Charleston, SC 29414

9590 9402 1692 6053 6567 44

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0605

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) John Basler C. Date of Delivery 5/24/16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

City of Austin
1180 Peachtree St
NE STE 1810
Atlanta, GA 30309

9590 9402 1692 6053 6690 03

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0612

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 5/24/16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dunlap Home Place
3173 Hagerty Dr.
Charleston, SC
29414

9590 9402 1692 6053 6567 20

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0544

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) John Basler C. Date of Delivery 5/24/16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

1329

Attachment B – Setback Waivers

Date: 6-1-16

I, Hall Coggins, as owner of tax map tract number 511-00-002-009 waive the

☐ 200 ft. property line setback

☒ 400 ft. property line setback

☐ 1,000 ft. permanent resident setback

for the construction of an agricultural facility owned by David Coggins (producer) located at Dixon Rd.

Property Owner Signature: _____

Hall Coggins
(printed name)

NOTE:

1. Sometimes more than one setback waiver option will need to be checked.
2. 200 ft. property line setback is for facilities with less than 500,000 lbs. of animal weight.
3. 400 ft. property line setback is for facilities with more than 500,000 lbs. of animal weight.

SOUTH CAROLINA
AGRI-WASTE TECHNOLOGY INC. No. 3399
CERTIFICATE OF AUTHORIZATION

AWT
Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 25556
CHRISTOPHER T. MOSLEY

Christopher T. Mosley
7/22/16

Comprehensive Nutrient Management Plan (CNMP)
(Version 2, 9/14/2011 Format)

The Comprehensive Nutrient Management Plan (CNMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This CNMP documents the planning decisions and operation and maintenance for the animal feeding operation. It includes background information and provides guidance, reference information and Web-based sites where up-to-date information can be obtained. Refer to the Producer Activity Document (PAD) for information about day-to-day management activities and recordkeeping. Both this CNMP document and the PAD document shall remain in the possession of the producer/landowner.

Farm/Facility: Heath Coggins Broilers

Farm Address:
Lisbon Rd. Near Hwy 72
Mountville, SC 29370
864-872-4098

Mailing Address:
113 Moreland Ave.
Laurens, SC 29360

Owner/Operator: Heath Coggins

Driving Directions: (From Mountville P.O.) Head E on Mountville Rd. and turn left onto SC-72 E, drive 1.8 miles. Turn left onto Lisbon Rd. drive 0.3 miles the farm is on the right.

County or Local Zoning Restrictions: There are no county or local zoning restrictions that impact this CNMP.

Hydrologic Unit Code (Facility): 030501090905

Flood Plain: The facility is located outside the 100-yr floodplain according to FEMA Maps FEMA FIRM Map 45059 C0365C.

Farm Headquarters Latitude/Longitude: 34° 23' 43.202" N 81° 57' 18.477" W
34.39533 -81.95513

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Owner

Owner/Operator: Heath Coggins	Phone: 864-872-4098
Address: 113 Moreland Ave Laurens SC 29360	

The following people have assisted with the development of the CNMP and certify that their element meets all applicable NRCS standards.

Manure Handling and Storage

Signature: Chris J Mosley	Date: 7/22/16
Name: Chris Mosley, P.E.	
Title: Vice President, Senior Project Engineer	

Nutrient Management

Signature: Chris J Mosley	Date: 7/22/16
Name: Chris Mosley, P.E.	
Title: Vice President, Senior Project Engineer	

Land Treatment Practices

Signature: Chris J Mosley	Date: 7/22/16
Name: Chris Mosley, P.E.	
Title: Vice President, Senior Project Engineer	

Comprehensive Nutrient Management Plan

I certify that I have reviewed this plan for technical adequacy and that the elements of the CNMP are compatible, reasonable, and able to be implemented. All elements meet NRCS standards and specifications as well as requirements set forth by the South Carolina Department of Health and Environmental Controls.	
Signature: Chris J Mosley	Date: 7/22/16
Name: Chris Mosley, P.E.	
Title: Vice President, Senior Project Engineer	

Owner

As the owner/operator, I certify that I, as the decision-maker, have been involved in the planning process and agree the items/practices listed in each element are needed. I understand that I am responsible for complying with SCDHEC Regulation 61-43 and for keeping all necessary records associated with the implementation of this CNMP. It is my intent to implement /accomplish this CNMP in a timely manner as described in the plan.	
Signature:	Date: 6/2/16

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Section 1. Background and Site Information

1.1. General Description of Operation

Heath Coggins Broilers is a planned six barn (66' X 600') broiler facility in Mountville, SC. The planned population is 237,600 broilers with 39,600 birds in each house. Broilers will be raised on compacted clay floors covered with shavings. The exhaust fans for the barns will be on the NE ends and the barns will be spaced 60' apart. Approximately 4.5 flocks will be raised each year from 0.1 lbs. to 9 lbs. Each flock will be raised for 8-9 weeks with 2-3 weeks between flocks. The normal production live weight is approximately 1,081,080 lbs. Each year a full cleanout will occur in the spring. Between all other flocks crusting and windrowing will be alternated. The annual litter production is estimated at 1,449 tons per year.

All litter will be exported by L & M Litter Brokers (19,463-AG). Two planned 40' X 200' stacking sheds will hold litter until it is exported. Both stacking sheds will be built at a later date once DHEC has approved the plans and specs. Until stacking sheds are constructed litter must be spread immediately, exported immediately, or placed on a DHEC approved pad for no more than three days.

Normal mortalities will be handled through burial until a planned 22' X 90' composter is built. The composter will be built at a later date once the plans and specs have been approved by DHEC. Emergency mortalities will be handled through burial.

1.2. South Carolina Agricultural Facilities Permit Application, Stacking Shed Application, and Composter Application

Section 1. Background and Site Information

1.1. General Description of Operation

Heath Coggins Broilers is a planned six barn (66' X 600') broiler facility in Mountville, SC. The planned population is 237,600 broilers with 39,600 birds in each house. Broilers will be raised on compacted clay floors covered with shavings. The exhaust fans for the barns will be on the NE ends and the barns will be spaced 60' apart. Approximately 4.5 flocks will be raised each year from 0.1 lbs to 9 lbs. Each flock will be raised for 8-9 weeks with 2-3 weeks between flocks. The normal production live weight is approximately 1,081,080 lbs. Each year a full cleanout will occur in the spring. Between all other flocks crusting and windrowing will be alternated. The annual litter production is estimated at 1,479 tons per year.

All litter will be exported by L & M Litter Brokers (19,463-AG). Two planned 40' X 200' stacking sheds will hold litter until it is exported. Both stacking sheds will be built at a later date once DHEC has approved the plans and specs.

Normal mortalities will be handled through burial until a planned 22' X 90' composter is built. The composter will be built at a later date once the plans and specs have been approved by DHEC. Emergency mortalities will be handled through burial.

1.2. South Carolina Agricultural Facilities Permit Application, Stacking Shed Application, and Composter Application

D H E C
PROMOTE PROTECT PROSPER

Standard Application Form for New or Expanding Agricultural Animal Facilities (other than swine)

Please Type or Print

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Section 1 – FACILITY INFORMATION

DATE _____ FACILITY NUMBER ND ~~N/A~~ 00BA362

NEW X OR EXPANDING _____ FACILITY
IF EXPANDING: PERMIT NUMBER N/A DATE ISSUED N/A

FARM NAME Heath Coggins Broilers
COUNTY Laurens COMMUNITY Mountville
LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370
IS THIS FARM PLANNING TO BE A CONTRACT GROWER WITH AN INTEGRATOR? (YES) or NO
NAME OF INTEGRATOR Amick Farms

Section 2 – CONTACT INFORMATION

PERMIT APPLICANT Heath Coggins
ADDRESS 113 Moreland Ave. Laurens, SC 29360
PHONE NUMBER (WORK) 864-872-4098 (HOME) _____ (CELL/BEEPER) _____

ARE YOU THE PROPERTY OWNER OF RECORD? (YES) or NO IF NO, PROVIDE INFORMATION:
PROPERTY OWNER OF RECORD _____
ADDRESS _____
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

OPERATOR'S NAME Same as permit applicant ✓
ADDRESS _____
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

PLAN PREPARER Chris Mosley
TITLE/SC REGISTRATION NUMBER P.E. 25556
ADDRESS 501 N. Salem St. Suite 203, Apex, NC 27502
PHONE NUMBER (WORK) 919-367-6311 (FAX) 919-233-1970 (CELL/BEEPER) _____

Section 3 – ANIMAL TYPES & NUMBERS

AVERAGE ANIMAL LIVE WEIGHT = $\frac{\text{average exit weight} + \text{average entry weight}}{2}$ = $\frac{(\ 0.1\ ) + (\ 9.0\ )}{2}$ = 4.55 pounds

Type(s) of Animals	Maximum # of Animals (at any one time)	Normal Production Live Weight (pounds)	Total Manure (tons/yr or gal/yr)	Manure to Treatment System	Additional Scraped Solids or Compost	Acres for Land Application
Broilers	237,600	1,081,080	1,449	Stacking Shed	N/A	N/A

Section 4 – MANURE HANDLING & TREATMENT

MANURE HANDLING: (DRY) or WET COMPOSTER: YES or (NO) STACKING SHED: YES or (NO)
TREATMENT PROPOSED N/A
ARE YOU LAND APPLYING THE MANURE? YES or (NO)
DO YOU OWN ALL OF THE MANURE UTILIZATION AREAS? YES or (NO)
CONTRACT DISPOSAL OF MANURE WITH BROKER? (YES) or NO
NAME OF BROKER L & M Litter Brokers
IS INNOVATIVE OR ALTERNATIVE TECHNOLOGY BEING PROPOSED FOR THIS FACILITY? YES or (NO)
ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)
NUMBER OF GROUNDWATER MONITORING WELLS PROPOSED 0
VOLUME OF LAGOON OR STORAGE POND (if applicable) N/A cubic feet
NUMBER OF HOUSES/GROWING AREAS: Existing 0 Proposed 6
ARE YOU A TRAINED MANURE MANAGER? YES or (NO) TRAINING DATE N/A

Section 5 – FACILITY SEPARATION DISTANCES

SEPARATION DISTANCES:	ANIMAL GROWING AREA (HOUSES OR BARNS)		LAGOON, STORAGE POND OR TREATMENT SYSTEM	
	Required	Actual	Required	Actual
POTABLE WELLS	200 feet	**2812'**	200 feet	
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	**61'**	100 feet	
WATERS OF THE STATE LOCATED DOWNSLOPE (excluding ephemeral & intermittent streams)	100 feet	**834'**	100 feet	
OUTSTANDING RESOURCE WATERS, CRITICAL HABITATS FOR ENDANGERED SPECIES, SHELLFISH HARVESTING WATERS	100 feet	**26,859'**	500 feet	
EPHEMERAL OR INTERMITTENT STREAMS LOCATED DOWNSLOPE	100 feet*	**278'**	100 feet*	
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	**135'**	50 feet*	
PROPERTY LINE (500,000 lbs or less) (can be reduced or waived with written consent)	200 feet	**NA**	300 feet	
PROPERTY LINE (500,001 lbs or greater) (can be reduced or waived with written consent)	400 feet	**27'**	500 feet	
OCCUPIED PERMANENT RESIDENCE (can be reduced or waived with written consent)	1000 feet	**2812'**	1000 feet	

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

Section 6 – MANURE UTILIZATION AREA SEPARATION DISTANCES

For more fields please make copies of this page and add as additional sheets.

SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
RESIDENCE	300 ft**							

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Section 4 – MANURE HANDLING & TREATMENT

MANURE HANDLING: (DRY) or WET COMPOSTER: (YES) or NO STACKING SHED: (YES) or NO
TREATMENT PROPOSED Stacking Shed
ARE YOU LAND APPLYING THE MANURE? YES or (NO)
DO YOU OWN ALL OF THE MANURE UTILIZATION AREAS? YES or (NO)
CONTRACT DISPOSAL OF MANURE WITH BROKER? (YES) or NO
NAME OF BROKER L & M Litter Brokers
IS INNOVATIVE OR ALTERNATIVE TECHNOLOGY BEING PROPOSED FOR THIS FACILITY? YES or (NO)
ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)
NUMBER OF GROUNDWATER MONITORING WELLS PROPOSED 0
VOLUME OF LAGOON OR STORAGE POND (if applicable) N/A cubic feet
NUMBER OF HOUSES/GROWING AREAS: Existing 0 Proposed 6
ARE YOU A TRAINED MANURE MANAGER? YES or (NO) TRAINING DATE N/A

Section 5 – FACILITY SEPARATION DISTANCES

SEPARATION DISTANCES:	ANIMAL GROWING AREA (HOUSES OR BARNS)		LAGOON, STORAGE POND OR TREATMENT SYSTEM	
	Required	Actual	Required	Actual
POTABLE WELLS	200 feet	**2812'**	200 feet	
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	**81'**	100 feet	
WATERS OF THE STATE LOCATED DOWNSLOPE (excluding ephemeral & intermittent streams)	100 feet	**834'**	100 feet	
OUTSTANDING RESOURCE WATERS, CRITICAL HABITATS FOR ENDANGERED SPECIES, SHELLFISH HARVESTING WATERS	100 feet	**26,859'**	500 feet	
EPHEMERAL OR INTERMITTENT STREAMS LOCATED DOWNSLOPE	100 feet*	**278'**	100 feet*	
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	**135'**	50 feet*	
PROPERTY LINE (500,000 lbs or less) (can be reduced or waived with written consent)	200 feet	**NA**	300 feet	
PROPERTY LINE (500,001 lbs or greater) (can be reduced or waived with written consent)	400 feet	**27'**	500 feet	
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*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

Section 6 – MANURE UTILIZATION AREA SEPARATION DISTANCES

For more fields please make copies of this page and add as additional sheets.

SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
RESIDENCE	300 ft**							

DHEC 3580 (02/2010)

MANURE UTILIZATION AREA TABLE CONTINUED

SEPARATION DISTANCES:	Tract 6->						
	Field 6->						
POTABLE WELL	200 ft						
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A			
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*						
DITCHES DOWNSLOPE	50 ft						
RESIDENCE	500 ft**						

* Reduced to 75 ft for incorporated manure and 50 ft for injection or incorporation within 24 hours
** If method of application is injection or immediate incorporation then manure may be spread to the property line. All residence setbacks may be reduced by consent of the owner of the residence.

Section 7 – PERMIT APPLICATION SUBMITTAL REQUIREMENTS

SUBMITTAL PACKAGE SHOULD INCLUDE 2 COPIES OF THE FOLLOWING ITEMS (CHECK EACH ONE SUBMITTED):

X 1. ORIGINAL APPLICATION (and 1 copy of the original)
X 2. ANIMAL FACILITY MANAGEMENT PLAN
   a. Animal Manure Management System Description
   b. Design Calculations and Construction Details for treatment/storage structure, [illegible] and design information.
   c. Concentration of Manure Constituents
   d. Crop Management Plan (including contracts for farm field not owned by the applicant, field manure's name and contact information)
   e. Type of Waste Transport/Spreading Equipment (if applicable)
   f. Spray Application System Specifications and Details (if applicable)
   g. Manure Utilization Area Information and Maps
   h. Soils Information (maps & descriptions)
   i. Location maps (showing facility, treatment/storage structure and all fields)
   j. Copy of Tax Map (identifying all adjoining property owners within 1320 feet of the footprint of the facilities)
   k. 100 year floodplain locations (facility may not be located in the 100 year floodplain)
N/A 3. GROUNDWATER MONITORING WELL PROGRAM & DETAILS (if applicable)
X 4. ODOR ABATEMENT PLAN
X 5. VECTOR ABATEMENT PLAN
X 6. PRIMARY METHOD OF DEAD ANIMAL DISPOSAL Burial
X 7. ALTERNATIVE METHOD OF DEAD ANIMAL DISPOSAL FOR EXCESSIVE MORTALITY: Burial
X 8. CONTRACTS FOR CONTRACT DISPOSAL OF DEAD ANIMALS OR MANURE (if applicable)
N/A 9. SOIL MONITORING PLAN
N/A 10. PLANS & SPECIFICATIONS FOR ALL OTHER TREATMENT OR STORAGE STRUCTURES (composter, stacking shed, etc...)
X 11. NOTICES OF INTENT FROM ALL PROPERTY OWNERS WITHIN 1320 FEET OF THE FOOTPRINT OF THE FACILITY
X 12. EMERGENCY PLAN
X 13. WRITTEN CONSENT FOR WAIVING OR REDUCING SETBACKS (if applicable)
N/A 14. ALTERNATIVE TECHNOLOGY PROPOSAL (if applicable) Specifications, and a detailed report including purpose and expected benefit
X 15. APPLICATION FEE. See instructions on the back of this page for amount.
X 16. ANNUAL OPERATING FEE. See instructions for amount (first year's fee must be submitted before permit is issued).

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Section 8 - CERTIFICATION

I HEREBY CERTIFY THAT ALL OPERATIONS, MAINTENANCE AND ASSOCIATED ACTIVITY PERTAINING TO THIS SITE SHALL BE ACCOMPLISHED PURSUANT TO AND IN KEEPING WITH THE TERMS AND CONDITIONS OF THE APPROVED PLANS. I HAVE READ THIS APPLICATION AND AGREE TO THE REQUIREMENTS AND CONDITIONS THAT ARE CONTAINED WITHIN. THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I HEREBY GRANT AUTHORIZATION TO THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL THE RIGHT OF ACCESS TO THE SITE AT ALL REASONABLE HOURS FOR THE PURPOSE OF SAMPLING AND ON SITE INSPECTIONS.

Justin coggins
Printed Name /Owner or Lessee

Signature/Owner or Lessee

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF R.R.S 48 CHAPTER 1 OF THE 1987 SC CODE OF LAWS AND PURSUANT REGULATION 61-43 AND APPROPRIATE NRCS STANDARDS.

Chris Mosley

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MANURE UTILIZATION AREA TABLE CONTINUED

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SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
RESIDENCE	300 ft**							

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   d. Crop Management Plan (including contracts for each field not owned by the applicant, field owner's name and contact information)
   e. Type of Waste Transport/Spreading Equipment (if applicable)
   f. Spray Application System Specifications and Details (if applicable)
   g. Manure Utilization Area Information and Maps
   h. Soils Information (maps & descriptions)
   i. Location maps (showing facility, treatment/storage structure, and all fields)
   j. Copy of Tax Map (identifying all adjoining property owners within 1320 feet of the facility with names & addresses)
   k. 100 year floodplain locations (facility may not be located in the 100-year floodplain)
N/A 3. GROUNDWATER MONITORING WELL PROGRAM & DETAILS (if applicable)
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Heath coggins
Printed Name /Owner or Lessee

Signature/Owner or Lessee

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 1 OF THE 1987 SC CODE OF LAWS, AND PURSUANT REGULATION 61-43 AND APPROPRIATE NRCS STANDARDS.

Chris Mosley

DHEC_002071

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MANURE UTILIZATION AREA TABLE CONTINUED

SEPARATION DISTANCES:	Tract #→							
	Field #→							
POTABLE WELL	200 ft							
WATERS OF THE STATE LOCATED DOWNSLOPE	100 ft*			N/A				
EPHEMERAL & INTERMIT. STREAMS DOWNSLOPE	100 ft*							
DITCHES DOWNSLOPE	50 ft							
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N/A 3. GROUNDWATER MONITORING WELL PROGRAM & DETAILS (if applicable)
X 4. ODOR ABATEMENT PLAN
X 5. VECTOR ABATEMENT PLAN
X 6. PRIMARY METHOD OF DEAD ANIMAL DISPOSAL: Burial and Composting
X 7. ALTERNATIVE METHOD OF DEAD ANIMAL DISPOSAL FOR EXCESSIVE MORTALITY: Burial
X 8. CONTRACTS FOR CONTRACT DISPOSAL OF DEAD ANIMALS OR MANURE (if applicable)
N/A 9. SOIL MONITORING PLAN
N/A 10. PLANS & SPECIFICATIONS FOR ALL OTHER TREATMENT OR STORAGE STRUCTURES (composter, stacking shed, etc...)
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N/A 14. ALTERNATIVE TECHNOLOGY PROPOSAL (if applicable): Specifications, and a detailed report including purpose and expected benefits.
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Heath coggins
Printed Name /Owner or Leasee

Signature/Owner or Leasee

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 1 OF THE 1987 SC CODE OF LAWS, AND PURSUANT REGULATION 61-43 AND APPROPRIATE NRCS STANDARDS.

Chris Mosley

APPLICATION INSTRUCTIONS - Agricultural Animal Facility Permit

Purpose: This form must be completed as part of an application package submitted for DHEC approval of proposed NEW or EXPANDING agricultural animal facilities. The required items should be checked to ensure that a complete administrative package has been submitted. If a complete administrative package is not submitted, the entire project may be returned.

Item-by-Item Instructions: ***Section 1 - Facility Information.*** *Date*: Enter the date of application. *Facility Number*: Leave blank, Department staff will assign a facility number. *New or Expanding Facility:* If this application is for an existing facility that has previously obtained an agricultural animal facility permit from DHEC, then indicate by checking EXPANSION or NEW if a new facility is being proposed. If an Expansion, provide the following: *Permit Number;* Provide the permit number for the permitted facility, and *Date Issued;* Provide the date on which DHEC issued the permit. *Farm Name*: Give the name of the proposed agricultural animal facility. *County*: Give the county in which the proposed facility is to be located. *Community*: Give the name of the community in which the proposed facility is to be located. *Location*: Give directions to the proposed facility from the nearest town or state road. *Integrator Information:* Circle YES or NO to indicate whether this farm will be under contract with an integrator or integrating company. Provide the Name of the Integrator for this facility.

Section 2 - Contact Information. *Permit Applicant:* Enter the name, address and phone numbers for the person who is applying for the permit. Circle YES or NO to indicate whether the permit applicant is the property owner of record. *Property Owner of Record*: Enter the name, address and phone number of the person who legally owns the property on which the proposed agricultural animal facility is to be located. *Operator*: Enter the name, address and phone number of the person who will be responsible for the daily operation of the proposed facility. *Plan Preparer*: Enter the name of the plan preparer. *Title/SC Registration Number*: Enter the title and SC registration number (if applicable) of the person responsible for the design of the Animal Facility Management plan. *Address, Phone Number*: Enter the business address and phone numbers for the plan preparer.

Section 3 – Animal Types & Numbers. *Average Animal Live Weight*: Calculate the average weight of one animal unit by taking the average exit weight plus the average entry weight and divide by two. *Type of Animal Operation*: Indicate the type of animal proposed to be grown at this facility (i.e. dairy, turkey, broiler, etc....). *Maximum # of Animals (at any one time)*: Indicate the maximum number of each type of animal at the facility at any one time. *Normal Production Animal Live Weight* (lbs): The maximum number of animals at the facility at any one time multiplied by the average animal live weight of those animals. *Total Manure Produced (tons/year or gal/year)*: The total amount of manure produced by the animals in the span of one year. This amount should be represented in tons per year for dry manure and in gallons per year for wet manure. *Manure to Treatment System:* Provide the amount of manure or wastewater that is conveyed to a treatment system (if applicable). *Additional Scraped Solids or Compost:* Provide the amount of manure or solids that may be scraped at the barn, rather than conveyed to the treatment system. Or provide the amount of compost produced at a facility (if applicable). *Acres for Land Application:* The value here should be the number of acres available, that you would like to designate as manure utilization areas.

Section 4 – Manure Handling & Treatment. *Manure Handling*: Circle DRY or WET to indicate the type of manure handling for this operation. *Treatment Proposed:* Describe the type of manure treatment being proposed at the facility. *Land Application*: Circle YES or NO to indicate whether the manure will be land applied. *Owner of Manure Utilization Areas:* Circle YES or NO to indicate whether the permit applicant owns all of the manure utilization areas. If the applicant does not own all of the manure utilization areas, then owner information must be provided for each manure utilization area in the Animal Facility Management Plan. *Manure Broker*: Circle YES or NO to indicate whether a manure broker will be used for contract disposal of the manure from this facility and provide the name of the broker to be used (if applicable). *Treatment Technology*: Circle YES or NO to indicate whether innovative and alternative technology is being proposed for this facility. *Exceptional Quality Compost*: Circle YES or NO to indicate whether you are applying for the manure treated at your facility to qualify as exceptional quality compost (must meet product quality standards outlined in Part 300 of R.61-79). *Number of Groundwater Monitoring Wells*: Provide the number of groundwater monitoring wells that are proposed for this facility. *Volume of Lagoon or Storage Pond*: Provide the volume area of the proposed lagoon or storage pond. If more than one lagoon or storage pond is utilized, please provide the volume of each structure separately. *Number of Houses*: Indicate the number of existing and proposed houses that will be located on this property (All houses located on the same property tract must be considered one facility). *Trained Manure Manager*: Circle YES or NO to indicate whether the operator of the proposed facility has attended the certified manure manager's training and certification class conducted by Clemson Extension Service. Indicate the date on which the certification or training was obtained.

Section 5 – Facility Separation Distances. *Separation Distances*: This table outlines the required setbacks for the barns, lagoons, manure storage ponds or manure treatment systems. Enter the actual separation distance for the proposed facility in the appropriate spaces.

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Section 7 – Permit Application Submittal Requirements. Check each item that is being submitted as a part of this application. *All* items under Section 7 should be submitted to DHEC for review. In accordance with the **Environmental Protection Fee Reg. 61-30**, an application fee is required for submitting an Application for agricultural animal facilities. There is a requirement that DHEC meet certain time frames when processing permit applications. The "DHEC Time" is not the total time but rather it is the time that DHEC spends working on an application after a complete package is received. "DHEC Time" does not include the time an applicant takes to supply any information that may be requested by DHEC. The fees and time frames are as follows:

Agricultural Permit Application Fees

Facility Type	*DHEC Time*	*Fee*
Animal Facilities with wet manure handling	120 days	$240
Animal Facilities with dry manure handling	90 days	$165

Note: Please make **CHECKS** payable to SC DHEC/Bureau of Finance.

Regulation R61-30 also authorizes DHEC to assess annual environmental operating permit fees for certain permits. All new facilities must submit payment for the first years operating fee before the permit to construct is issued. The operating fee is $150 per year for animal facilities with wet manure handling operations and $75 per year for animal facilities with dry manure handling operations.

Section 8 – Certification. For this section, please read the certification statements and have the appropriate person(s) sign the certification.

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DHEC 3580 (02/2010)

RECEIVED
JUL 07 2016
Stormwater, Construction &
Agricultural Permitting Division

APPLICATION INSTRUCTIONS - Agricultural Animal Facility Permit

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DHEC 3580 (02/2010)

D H E C
PROMOTE PROTECT PROSPER

Standard Application Form for an Agricultural Permit for Stacking Sheds/Composters

Please Type or Print

Section 1 – FARM INFORMATION

DATE _____ OPERATION NUMBER ND N/A

NEW X OR EXISTING _____ OPERATION
IF EXISTING: PERMIT NUMBER N/A DATE ISSUED N/A

FARM NAME Heath Coggins Broilers
COUNTY Laurens COMMUNITY Mountville
LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370

APPLICATION FOR STACKING SHED X COMPOSTER X COMBINATION _____
DOES THE STRUCTURE MEET NRCS SPECIFICATIONS? (YES) or NO
ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)
IS THIS FACILITY ASSOCIATED WITH A MANURE BROKERING OPERATION? (YES) or NO
DOES THIS OPERATION HAVE A TRAINED MANURE MANAGER? YES or (NO) TRAINING DATE N/A

Section 2 – CONTACT INFORMATION

PERMIT APPLICANT Heath Coggins
ADDRESS 113 Moreland Ave. Laurens, SC 29360
PHONE NUMBER (WORK) 864-872-4098 (HOME) _____ (CELL/BEEPER) _____

ARE YOU THE PROPERTY OWNER OF RECORD? (YES) or NO IF NO, PROVIDE INFORMATION:
PROPERTY OWNER OF RECORD _____
ADDRESS _____
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

OPERATOR'S NAME Same as permit Applicant
ADDRESS _____
PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

PLAN PREPARER _____
TITLE/SC REGISTRATION NUMBER _____
ADDRESS _____
PHONE NUMBER (WORK) _____ (FAX) _____ (CELL/BEEPER) _____

Section 3 – STORAGE/COMPOSTING FACILITY SEPERATION DISTANCES

SEPARATION DISTANCES:	MANURE STORAGE/COMPOSTING STRUCTURES		
	Required	Actual SS1	SS2
POTABLE WELLS	100 feet	3841'	3889'
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	270'	273'
WATERS OF THE STATE LOCATED DOWNSLOPE (including ephemeral & intermittent streams)	100 feet*	423'	333'
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	323'	350'
PROPERTY LINE	200 feet**	403'	407'

*distance may be reduced if a vegetative water quality buffer that meets NRCS guidelines is installed and maintained.

Section 4 – PERMIT APPLICATION SUBMITTAL REQUIREMENTS

SUBMITTAL PACKAGE SHOULD INCLUDE 2 COPIES OF THE FOLLOWING ITEMS (check each item submitted):

X 1. ORIGINAL APPLICATION (and 1 copy of the original)
X 2. MANURE MANAGEMENT PLAN
   a. Animal Manure Management System Description
   b. Design Calculations and Construction Details for treatment/storage structure, including exact location and design information.
   c. Location maps (showing treatment/storage structure, and all fields)
   d. 100 year floodplain locations (treatment/storage structure may not be located in the 100-year floodplain)
X 3. ODOR ABATEMENT PLAN
X 4. VECTOR ABATEMENT PLAN
N/A 5. WRITTEN CONSENT FOR WAIVING OR REDUCING SETBACKS FOR TREATMENT/STORAGE STRUCTURE (if applicable)

Section 5 - CERTIFICATION

I HEREBY CERTIFY THAT ALL OPERATIONS, MAINTENANCE AND ASSOCIATED ACTIVITY PERTAINING TO THIS SITE SHALL BE ACCOMPLISHED PURSUANT TO AND IN KEEPING WITH THE TERMS AND CONDITIONS OF THE APPROVED PLANS. I HAVE READ THIS APPLICATION AND AGREE TO THE REQUIREMENTS AND CONDITIONS THAT ARE CONTAINED WITHIN. THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I HEREBY GRANT AUTHORIZATION TO THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL THE RIGHT OF ACCESS TO THE SITE AT ALL REASONABLE HOURS FOR THE PURPOSE OF SAMPLING AND ON SITE INSPECTIONS.

Heath Coggins
Printed Name /Owner

Signature/Owner

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 1 OF THE 1987 SC CODE OF LAWS, AND PURSUANT REGULATION 61-43 AND APPROPRIATE NRCS STANDARDS.

Printed Name/Plan Preparer

Signature/Plan Preparer

APPLICATION INSTRUCTIONS - Agricultural Permit for Stacking Sheds & Composters

Purpose:

This form must be completed as part of an application package submitted for DHEC approval of proposed NEW or EXPANDING agricultural manure stacking shed or composter. The required items should be checked to ensure that a complete administrative package has been submitted. If a complete administrative package is not submitted, the entire project may be returned.

Item-by-Item Instructions:

Section 1 - Contact Information.
Date: Enter the date of application.
Operation Number: Leave blank, Department will assign a facility number.
New or Existing Facilities: If this application is for an existing operation that has previously obtained an agricultural permit from DHEC; indicate by circling EXISTING or NEW for new operations. If EXISTING, provide the following: *Permit Number;* Provide the permit number for the permitted operation, and *Date Issued;* Provide the date on which DHEC issued the permit. *Farm Name*: Give the name of the agricultural operation.
County: Give the county in which the operation is located.
Location: Give directions to the proposed operation from the nearest town or state road.
Application Type: Indicate whether you are applying for a permit for a stacking shed, composter, or a combination or both a stacking shed and composter. *NRCS Specifications:* Circle YES or NO to indicate if the stacking shed and/or composter meets NRCS Specifications.
Exceptional Quality Compost: Circle YES or NO to indicate whether you are applying for the manure treated at your facility to qualify as exceptional quality compost (must meet product quality standards outlined in Part 300 of R.61-43).
Manure Brokering Operations: Circle YES or NO to indicate whether this application is being submitted for a stacking shed and/or composter that is associated with a manure brokering operation.
Trained Manure Manager: Circle YES or NO to indicate whether the operator has attended the certified manure manager's training and certification class conducted by Clemson Extension Service. Indicate the date on which the certification or training was obtained.

Section 2 – Contact Information.
Permit Applicant: Enter the name, address and phone numbers for the person who is applying for the permit.
Property Owner of Record: Circle YES or NO to indicate whether the permit applicant is the property owner of record.
Enter the name, address and phone number of the person who legally owns the property on which the proposed agricultural storage/composting facility is to be located.
Operator: Enter the name, address and phone number of the person who will be responsible for the daily operation of the proposed storage/composting facility.
Plan Preparer: Enter the name of the plan preparer. *Title/SC Registration Number*: Enter the title and SC registration number (if applicable) of the person responsible for the design of the Animal Facility Management plan. *Address, Phone Number*: Enter the business address and phone numbers for the plan preparer.

Section 3 – Storage/Composting Facility Separation Distances.
Separation Distances: This table outlines the required setbacks for the manure storage and composting systems. Please enter the actual separation distance for the proposed storage/composting facility in the appropriate spaces.

Section 4 – Permit Application Submittal Requirements.
Please check each item that is being submitted as a part of this application. *All* items under Section 4 should be submitted to DHEC for review.

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For this section, please read the certification statements and have the appropriate person(s) sign the certification.

DHEC Processing Procedures:

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D H E C

PROMOTE PROTECT PROSPER

Standard Application Form for an Agricultural Permit for Stacking Sheds/Composters

Please Type or Print

Section 1 – FARM INFORMATION

DATE _____ OPERATION NUMBER ND N/A

NEW X OR EXISTING _____ OPERATION

IF EXISTING: PERMIT NUMBER N/A DATE ISSUED N/A

FARM NAME Heah Coggins Broilers

COUNTY Laurens COMMUNITY Mountville

LOCATION Lisbon Rd. Near Hwy 72 Mountville, SC 29370

APPLICATION FOR STACKING SHED _____ COMPOSTER X COMBINATION _____

DOES THE STRUCTURE MEET NRCS SPECIFICATIONS? (YES) or NO

ARE YOU APPLYING FOR EXCEPTIONAL QUALITY COMPOST QUALIFICATION? YES or (NO)

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PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

OPERATOR'S NAME Same as permit Applicant

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PHONE NUMBER (WORK) _____ (HOME) _____ (CELL/BEEPER) _____

PLAN PREPARER _____

TITLE/SC REGISTRATION NUMBER _____

ADDRESS _____

PHONE NUMBER (WORK) _____ (FAX) _____ (CELL/BEEPER) _____

Section 3 – STORAGE/COMPOSTING FACILITY SEPERATION DISTANCES

SEPARATION DISTANCES:	MANURE STORAGE/COMPOSTING STRUCTURES	
	Required	Actual
POTABLE WELLS	100 feet	3,838'
POTABLE WELLS OWNED BY THE APPLICANT	50 feet	400'
WATERS OF THE STATE LOCATED DOWNSLOPE (including ephemeral & intermittent streams)	100 feet*	351'
DITCHES OR SWALES LOCATED DOWNSLOPE	50 feet*	294'
PROPERTY LINE	200 feet**	403'

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APPLICATION INSTRUCTIONS - Agricultural Permit for Stacking Sheds & Composters

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1.3. Preliminary Site Approval for Poultry Barns, Stacking Sheds, and Composter

D H E C

PROMOTE PROTECT PROSPER

Catherine E. Heigel, Director

Protecting and promoting the health of the public and the environment

May 19, 2016

Mr. Heath Coggins
113 Moreland Ave.
Laurens, SC 29360

RE: Preliminary Site Approval for 2 Stacking Sheds and a Composter
Location: Take Lisbon Rd (SR49) Northwest from Hwy 72. Proposed site is 0.6 mi. on the right.
County: Laurens

Dear Mr. Coggins:

The following information concerns a preliminary site investigation that was conducted on **April 13, 2016** and map received on May 19, 2016 in regards to the placement of 2 stacking sheds and a composter at the proposed facility. All requirements relevant to this type of disposal contained in part 200 of Regulation 61-43, "Standards for the Permitting of Agricultural Animal Facilities", must be met. The site that you have chosen is located on the Southwest side of the proposed houses. This site appears to be suitable for a composter and stacking sheds. Permission is granted for you to proceed with the planning and design of this system.

Please be aware that additional buffer zone requirements may be required on a case-by-case basis. Also, in handling of the manure, you should consider minimizing potential nuisances such as odor, flies, etc. However, if nuisances occur, you will need to correct them in the shortest time frame possible.

In designing your system, you should keep in mind future environmental concerns such as possible growth and non-point source pollution.

This site approval will expire on **April 13, 2017**.

If you have any questions, please do not hesitate to contact me at (864) 227-5915.

Sincerely,

Chrissy Matthews

Chrissy Matthews
Upstate EQC Region – Greenwood

Cc: DHEC- Agricultural Waste Permitting Section
Agri-Waste Technology, Inc. (AWT)

D H E C

PROMOTE PROTECT PROSPER

Catherine E. Heigel, Director

Promoting and protecting the health of the public and the environment

April 13, 2016

Mr. Heath Coggins
113 Moreland Ave.
Laurens, SC 29360

RE: Preliminary Site Approval for 8 Broiler Houses
Location: Take Lisbon Rd (SR49) Northwest from Hwy 72. Proposed site is 0.6 mi. on the right.
County: Laurens

Dear Mr. Coggins:

The following information concerns a preliminary site investigation that was conducted on April 13, 2016 to discuss your proposed broiler facility. All requirements relevant to this type of operation contained in part 200 of Regulation 61-43, "Standards for the Permitting of Agricultural Animal Facilities", must be met before an Animal Feeding Operation Permit is issued. The site that you have chosen appears to be suitable for this type of operation. Permission is granted for you to proceed with the planning and design of your system.

In order to obtain an Animal Feeding Operation Permit or authorization to operate one, the following information is required:

1. Two copies of a **Waste Management Plan** and a signed **Standard Application Form for Agricultural Animal Facilities** - ***Animal Facilities other than Swine*** (DHEC form #3580) must be submitted. The waste management plan must be prepared by an engineer licensed to practice in South Carolina or it may be prepared by the Natural Resource Conservation Service.

2. A statement that the owner(s) will be responsible for operating and maintaining the waste management system in accordance with design criteria.

3. Provide Tax maps that identify the location of the proposed barn(s) and all property owners within ¼ mi. and the land use (residential, cropland, business, church, etc.). Please **NOTE** that the Department requires that the proposed animal houses are located at least 1000 feet from any inhabited residences. However, this distance requirement may be reduced with written consent from the owner of the dwelling.

4. Regulation 61-43 requires that you must notify all property owners within ¼ mi. of your proposed facility's footprint of your intent to build an agricultural facility. Proof of notification of all property owners whose property line is within ¼ mi. of the proposed facility's footprint. A signed Notice of Intent Form (DHEC form # 3579) or a certified mail card is sufficient.

5. Check for the application fee of $165 made payable to **DHEC's Bureau of Finance.**

5. Any animal or drinking water wells installed at this site must be located at least 50 feet from the broiler houses.

Upon receipt of the items above, we will promptly proceed with our review. **This site approval will expire on April 13, 2017.**

In designing your waste handling practices, you should keep in mind future environmental considerations, such as non-point source pollution and your growth plans. Please consider minimizing potential nuisances such as odors, flies, etc. If nuisances do occur, they will need to be corrected in the shortest time frame possible.

Please note that construction of this facility must not be initiated prior to receiving a Permit from this Department. Once the facility is constructed, no animals may be put into the facility prior to the SC DHEC Regional Office issuing written authorization to place the facility into operation. Failure to adhere to these requirements may result in an enforcement action.

If you have any questions, please do not hesitate to call me at (864) 227-5915.

Sincerely,

Chrissy Matthews

Chrissy Matthews
Upstate EQC Region – Greenwood

Cc: DHEC- Agricultural Waste Permitting Section

1.4. Litter Sampling

Litter Analysis
The producer shall be responsible for having representative samples of the manure collected and analyzed at least once per year and when the feed composition significantly changes. The amount of manure to be land applied so that the permitted application rate (normally the agronomic rate) is met will be determined using a rolling average of the previous analyses. The documentation must be maintained for at least eight years, longer if it relates to a USDA program. These analyses are part of the required Record Keeping and are stored under the Record Keeping element of this CNMP.

Obtaining a representative sample is one of the most important tasks in manure management because application rates are based on the concentration of nutrients in the manure. Samples should be taken as close as possible to the time of application. If several weeks elapse between sampling and land application, or if the manure is altered by rainfall or manure additions, another sample should be obtained. To take a representative sample, obtain a quart of manure from 15 to 20 locations in the pile or lagoon and place in a large clean plastic bucket. Mix this bulk sample thoroughly, and then place about a quart in a clean plastic bag or bottle. Seal tightly, but leave room for the sample to expand. Keep the sample cool. If the sample is not mailed to the laboratory on the same day it is sampled, it should be refrigerated.

Guidelines for analysis and application of manure may be obtained from Clemson Extension's EC 673, 1996, "Land Application of Animal Manure" (http://www.clemson.edu/psapublishing/pages/waste/EC673.PDF).

1.5. Existing Waste Management or Nutrient Management Plans

This will be the first waste management plan for this farm.

1.6. Operator or manager certifications:

Certified Animal Manure Manager (CAMM): Heath Coggins
Certificate Number: To be certified within 1 year of permit issuance.

1.7. Notice(s) of Public Intent

Notices of Intent are included in Attachment A..

1.8. Waivers (Neighboring Landowners)

Setback waivers are included in Attachment B.

1.9. Manure Application Agreements

Not applicable for this plan

1.10. Natural Resource Concerns

If checked, the indicated resource concerns have been identified and have been addressed in this plan.

Soil Quality Concerns

	Soil Quality Concern	*Activities to Address Concern*
✓	None	

Water Quality Concerns

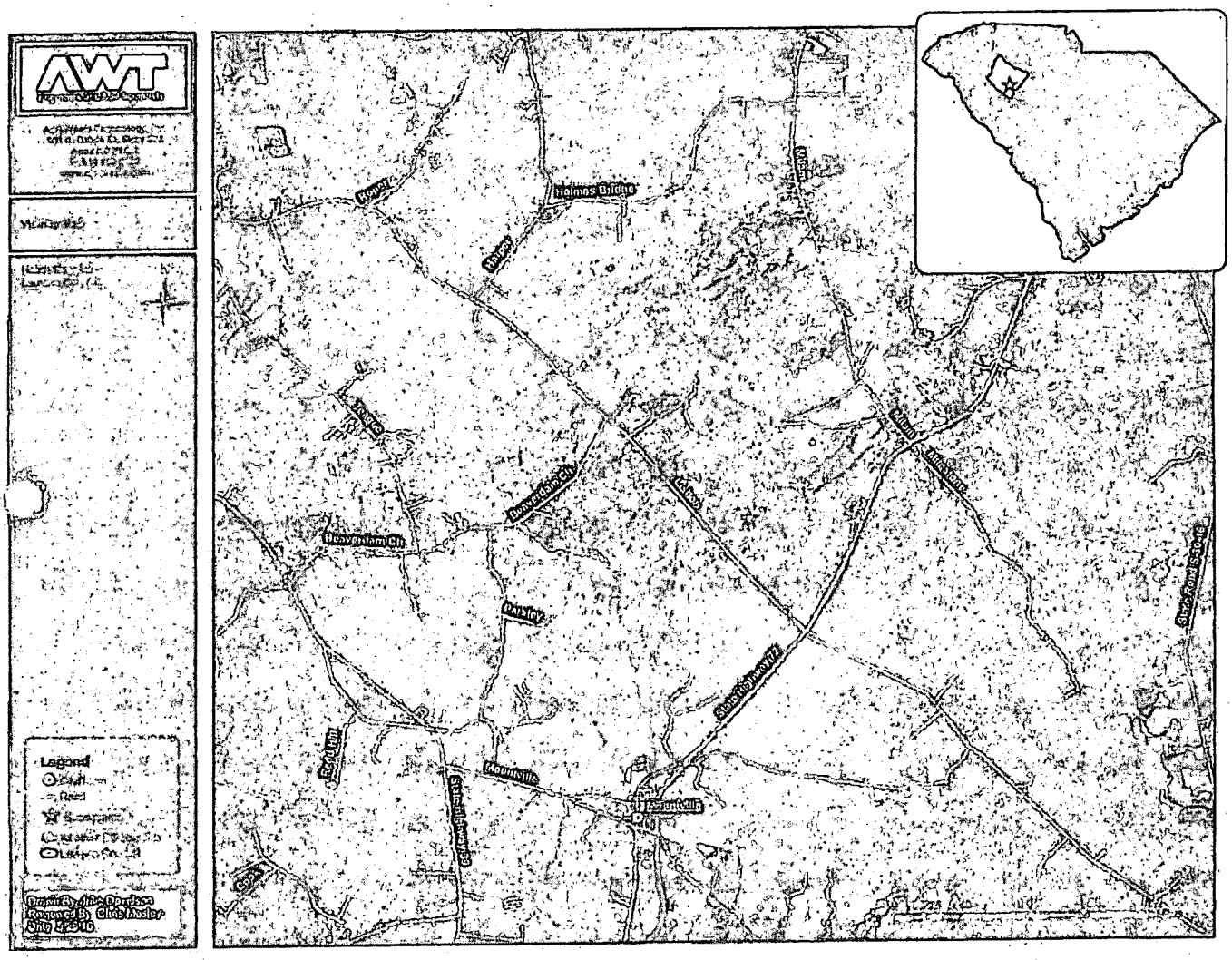
	Water Quality Concern	*Activities to Address Concern*
✓	None	

Other Concerns Addressed

	Other Concern	*Activities to Address Concern*
✓	Regulations	Plan required by DHEC
✓	Litter Storage	Planned Stacking Shed
✓	Mortality Management	Planned Composter

Section 2. Manure and Wastewater Handling and Storage

2.1. Map(s) of Production Area



DHEC_002088

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Agri-Waste Technology, Inc.
2301 NC Highway 55, Suite 203
P.O. Box 4668
Apex, NC 27502
P: 919.362.4668
www.agriwaste.com

Proposed HQ Location Map
Heath Coggins-Laurens Co. SC

IMPORTANT NOTES:

1.) Poultry houses/stacking shed/composter do not impact the 1,000' permanent residence buffer. No waivers are needed. These are shown as orange circles.

2.) Poultry houses/stacking shed/composter are closer than 400' from the property line (yellow shaded area). If 400' property line waiver will be needed from James Young (510-00-00-009).

3.) Poultry houses/stacking shed/composter are more than 100' from surface water.

4.) Poultry houses/stacking shed/composter are more than 100' from wetlands (delineated by AWT).

5.) Planned poultry houses are more than 200' from neighbor's wells. Neighbor wells are assumed to be 100' from residence (orange circle).

6.) Poultry houses are 60' x 600' and 60' feet apart.

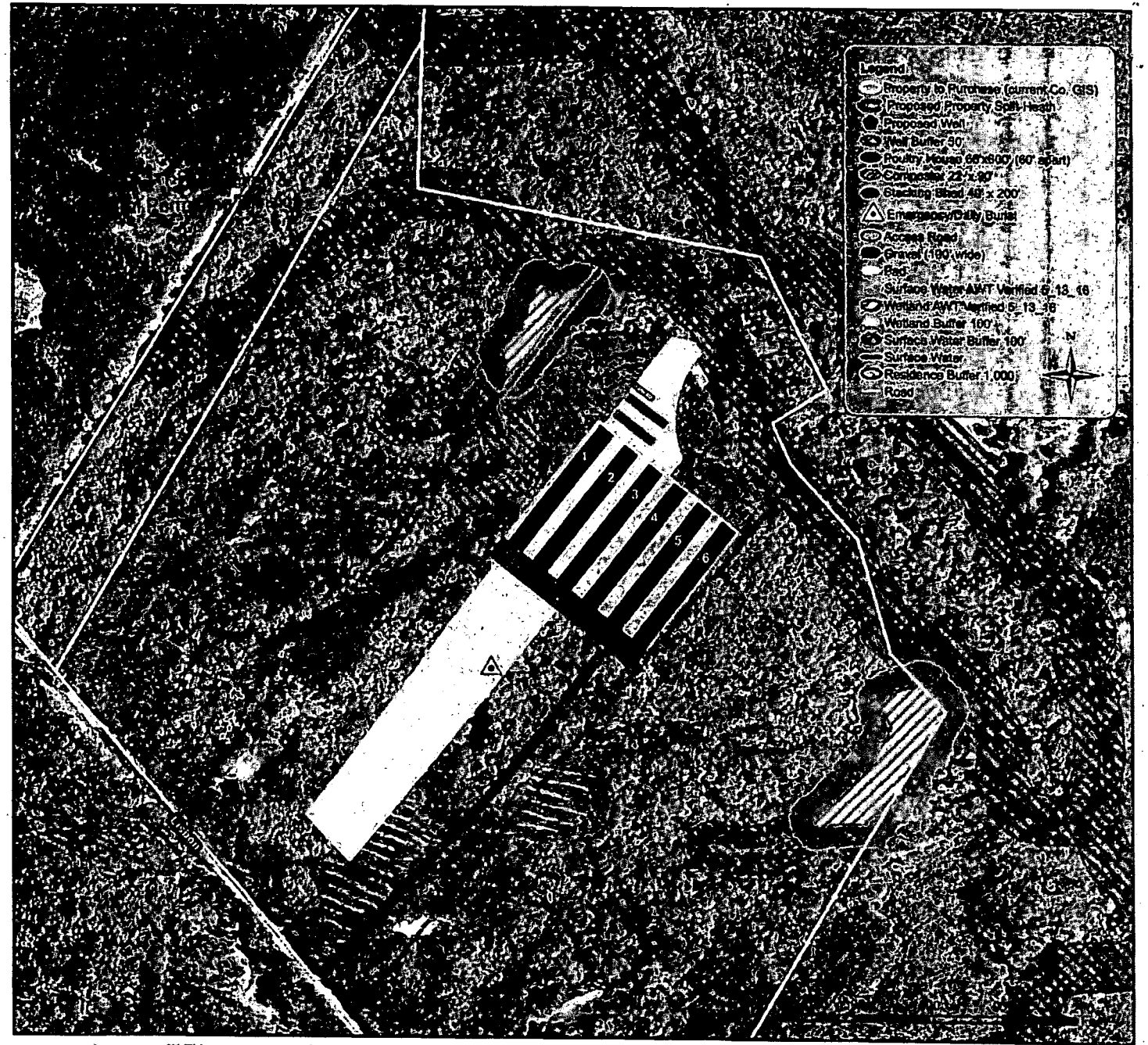
7.) Composter is 22' x 80'.

8.) Stacking shed is 60' from poultry houses.

9.) Composter is 40' from the stacking shed.

10.) Burial site has the same location requirements as the poultry houses/stacking shed/composter. The burial site meets these requirements as described in items 1-5 above.

Drawn By: Julie Davidson
Reviewed By: Chris Mosley
Date: 9/21/16



*** This map was created for proposed planning purposes only. It is not intended to be used as a plat or survey map of any type.***

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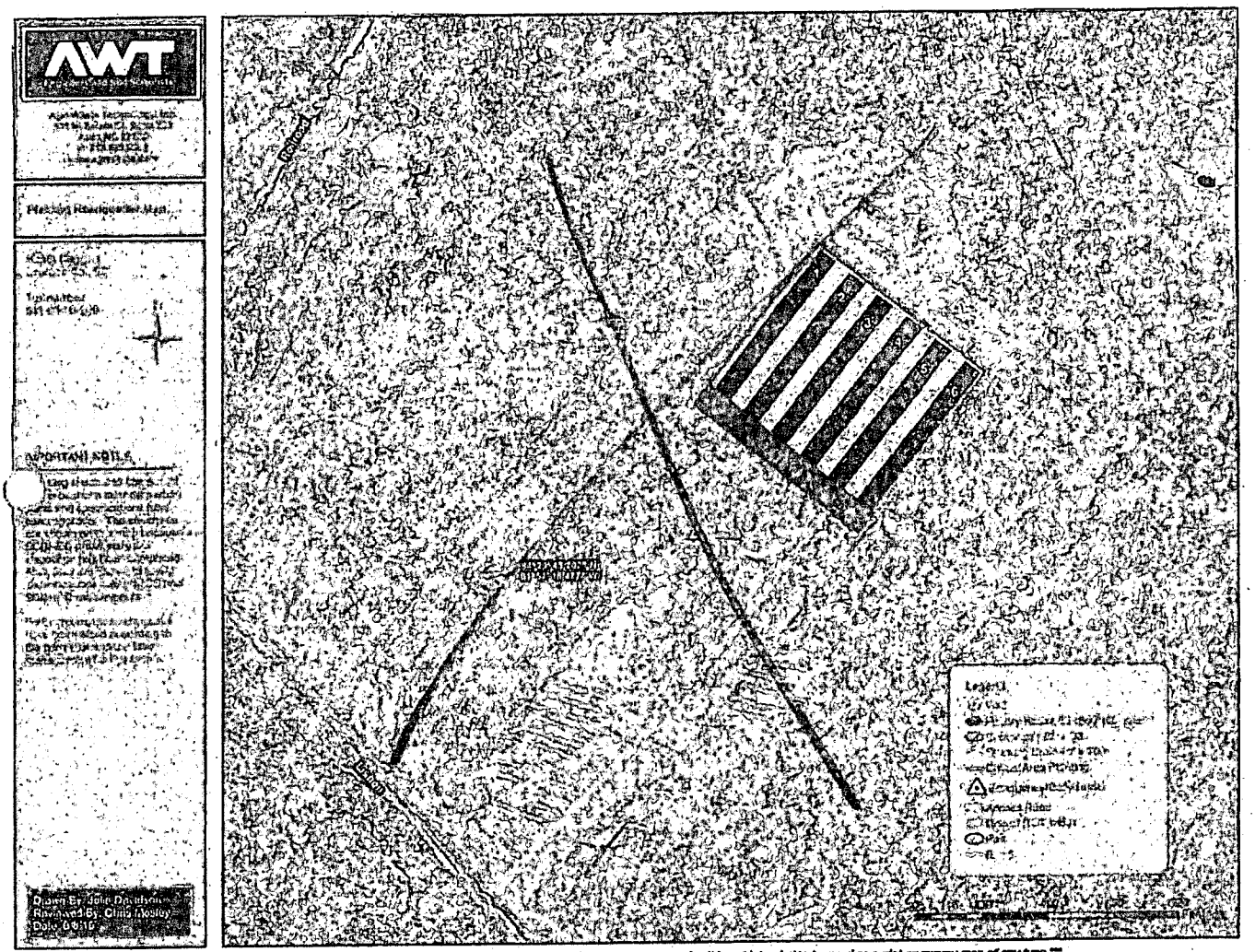

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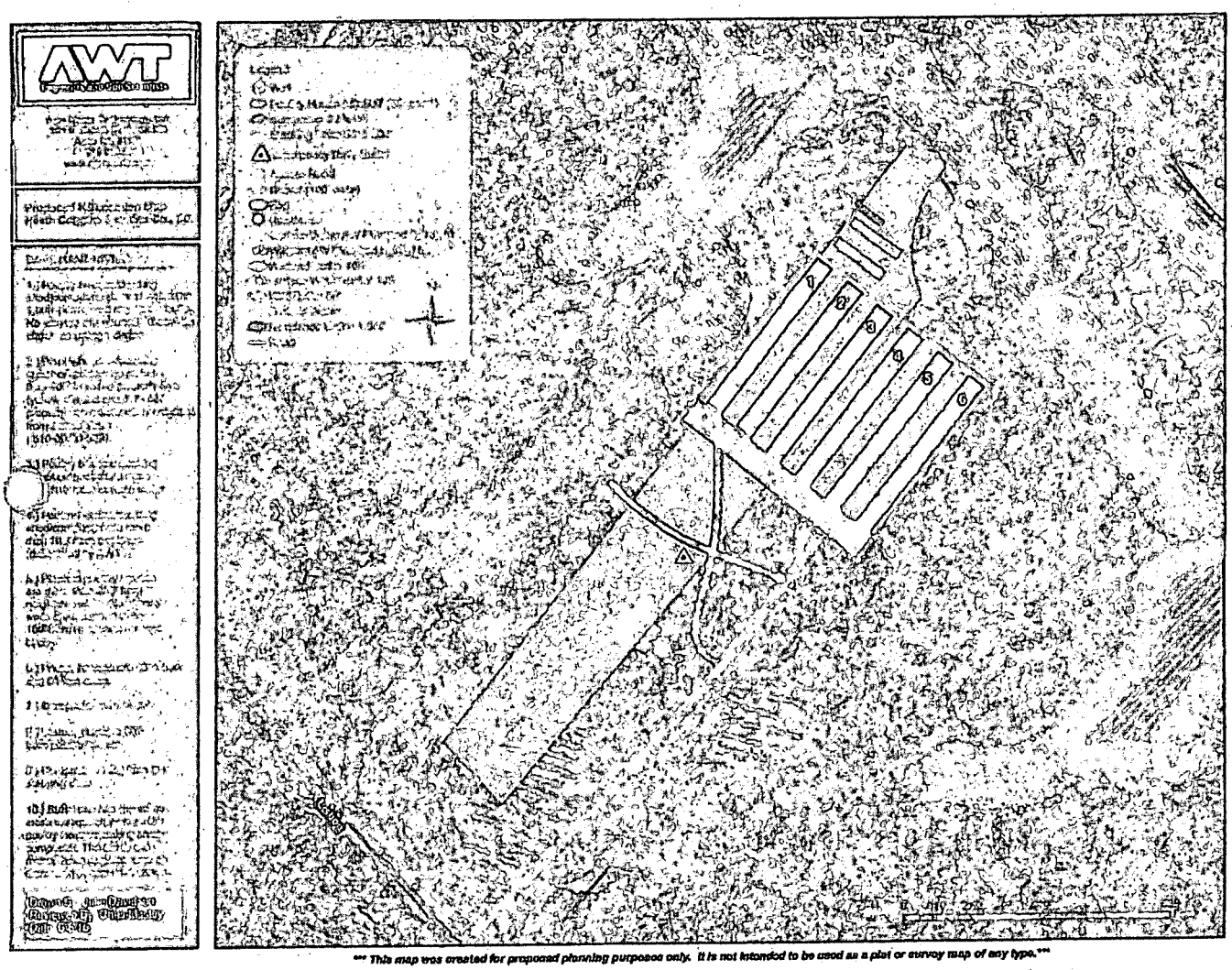

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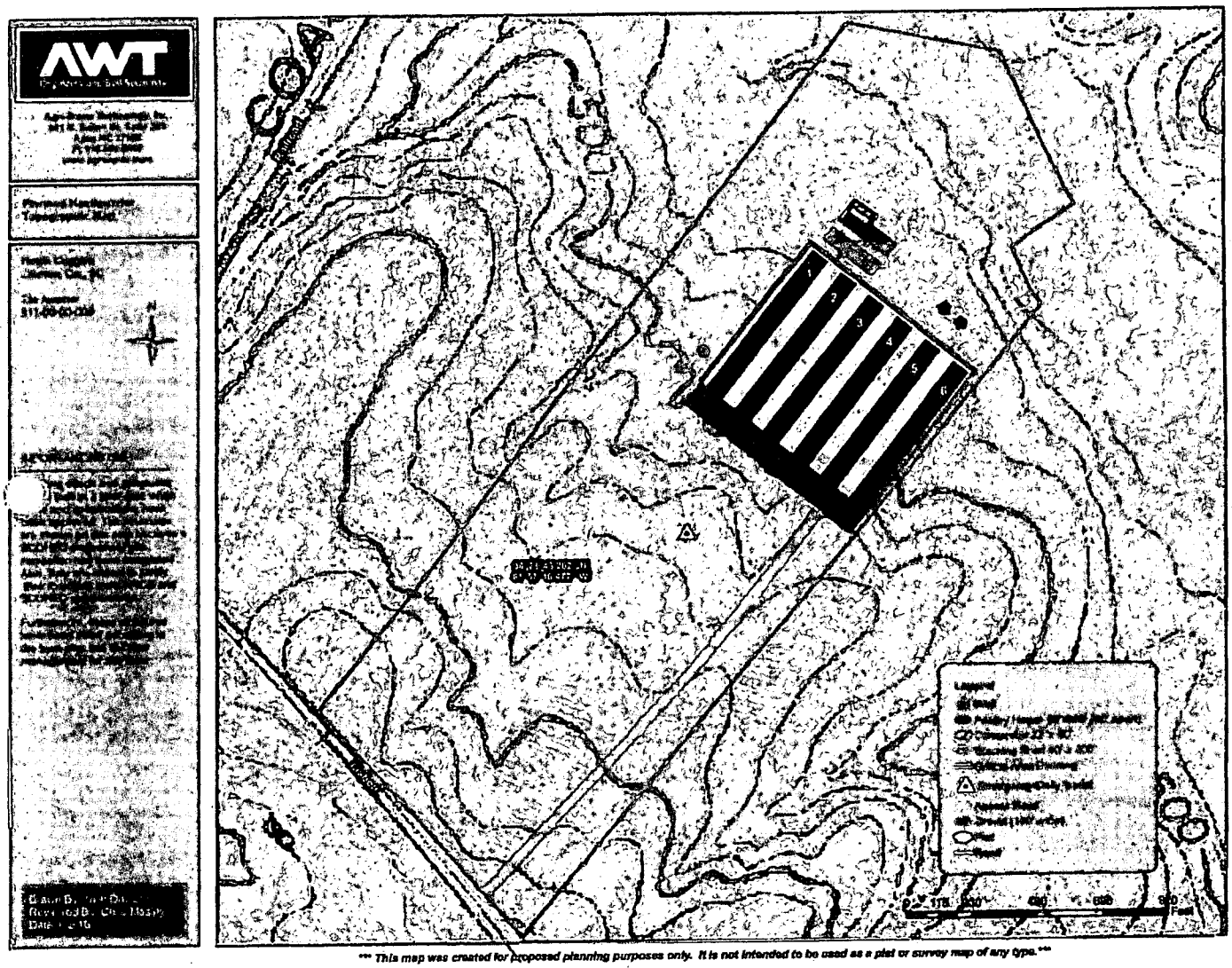

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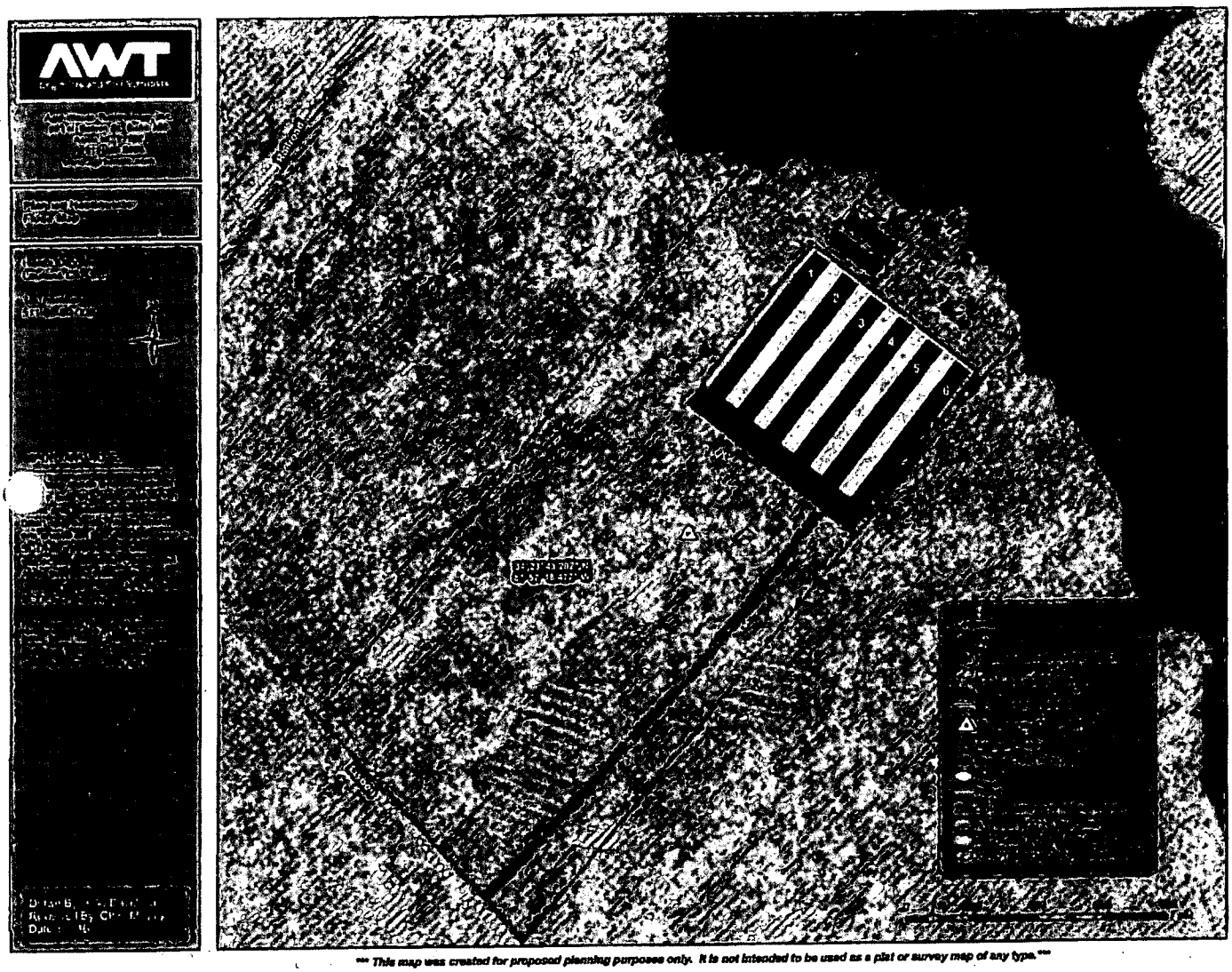

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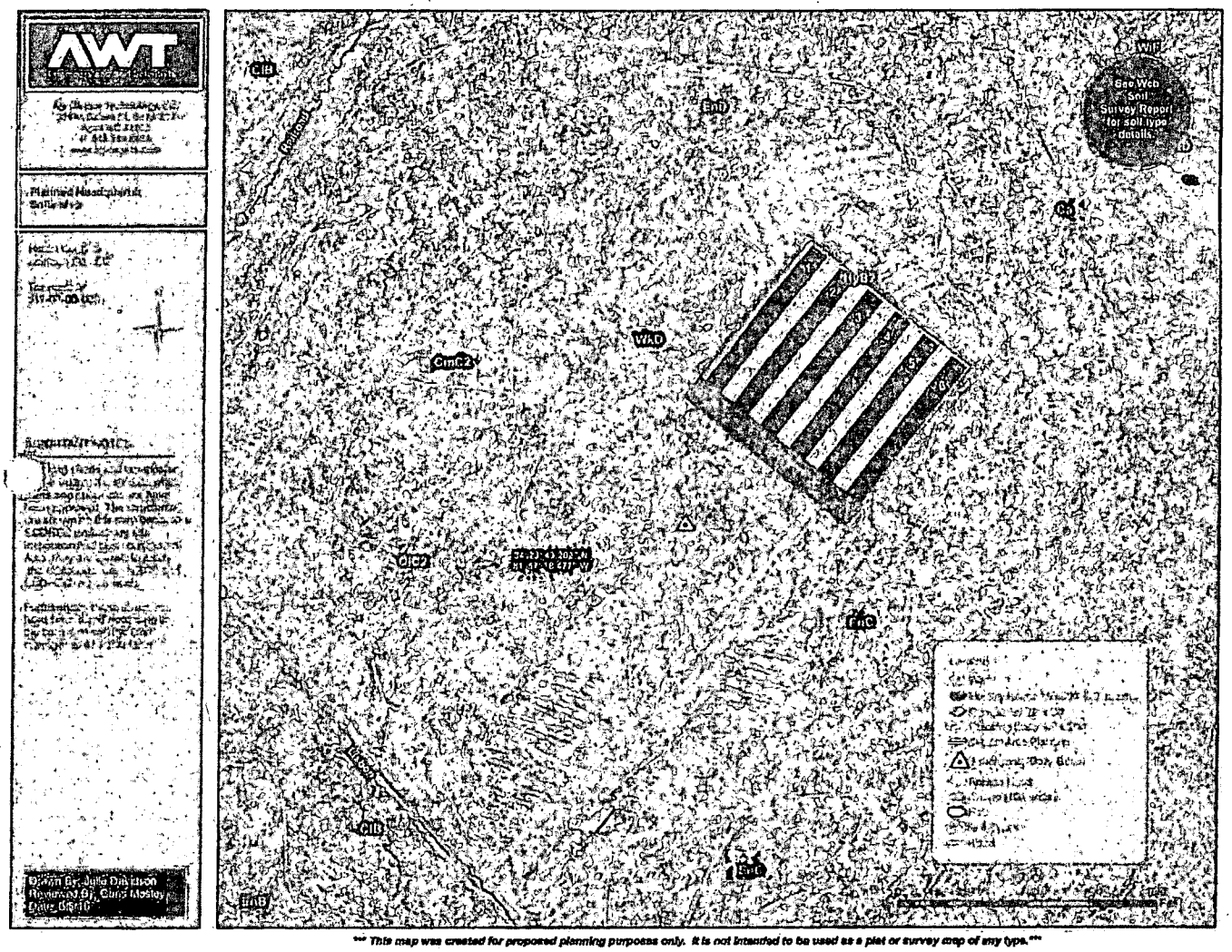

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AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
301 N. Salem St. Suite 203
Apex NC 27502
P: 919.249.1699
www.agriwaste.com

Notice of Intent Map

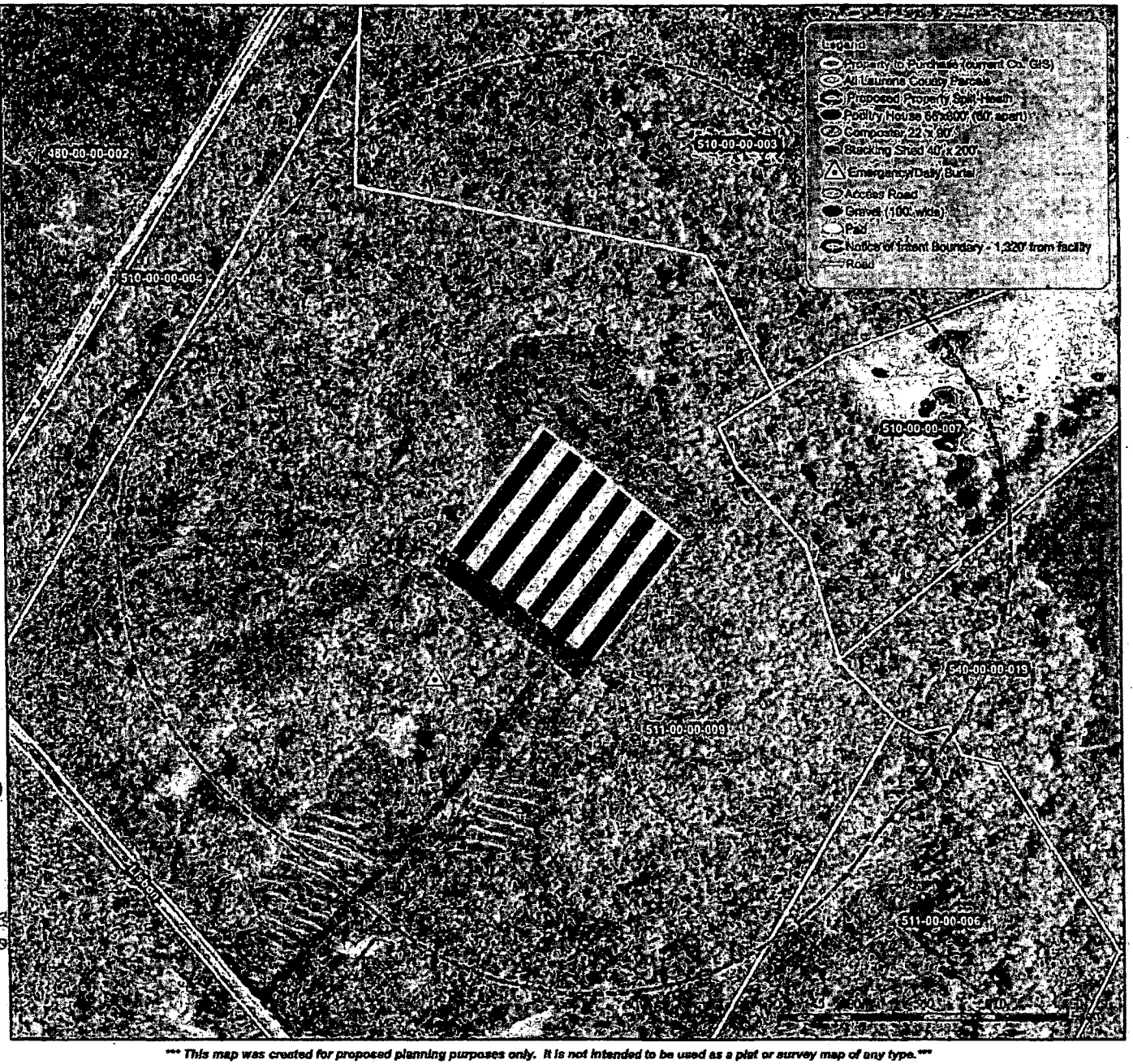
Heath Coggins
Laurens Co., SC

Tax numbers
511-00-00-009

The current property line is drawn in yellow. Heath will purchase a portion of 511-00-00-009 and 510-00-00-004. The proposed property split is shown with a red dotted line.

RECEIVED
NOV 07 2016
SC Dept. of Health & Environmental Control

Drawn By: Julie Davidson
Reviewed By: Chas Mosley
Date: 9/21/16



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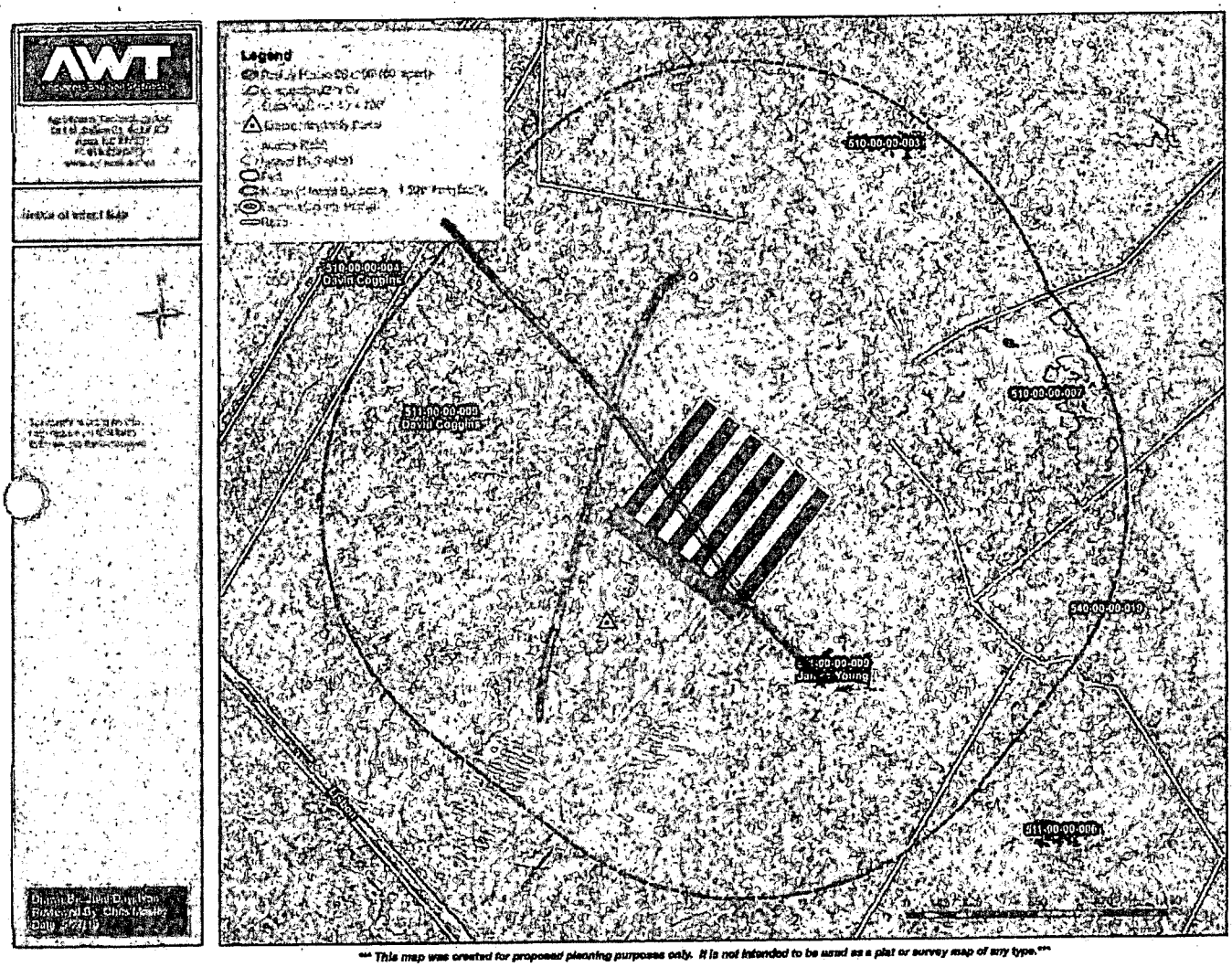

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DHEC_002096

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AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
301 N. Saluda St. Suite 205
Apex, NC 27502
P: 919.362.0444
www.agriwaste.com

Adjacent Land Use Map

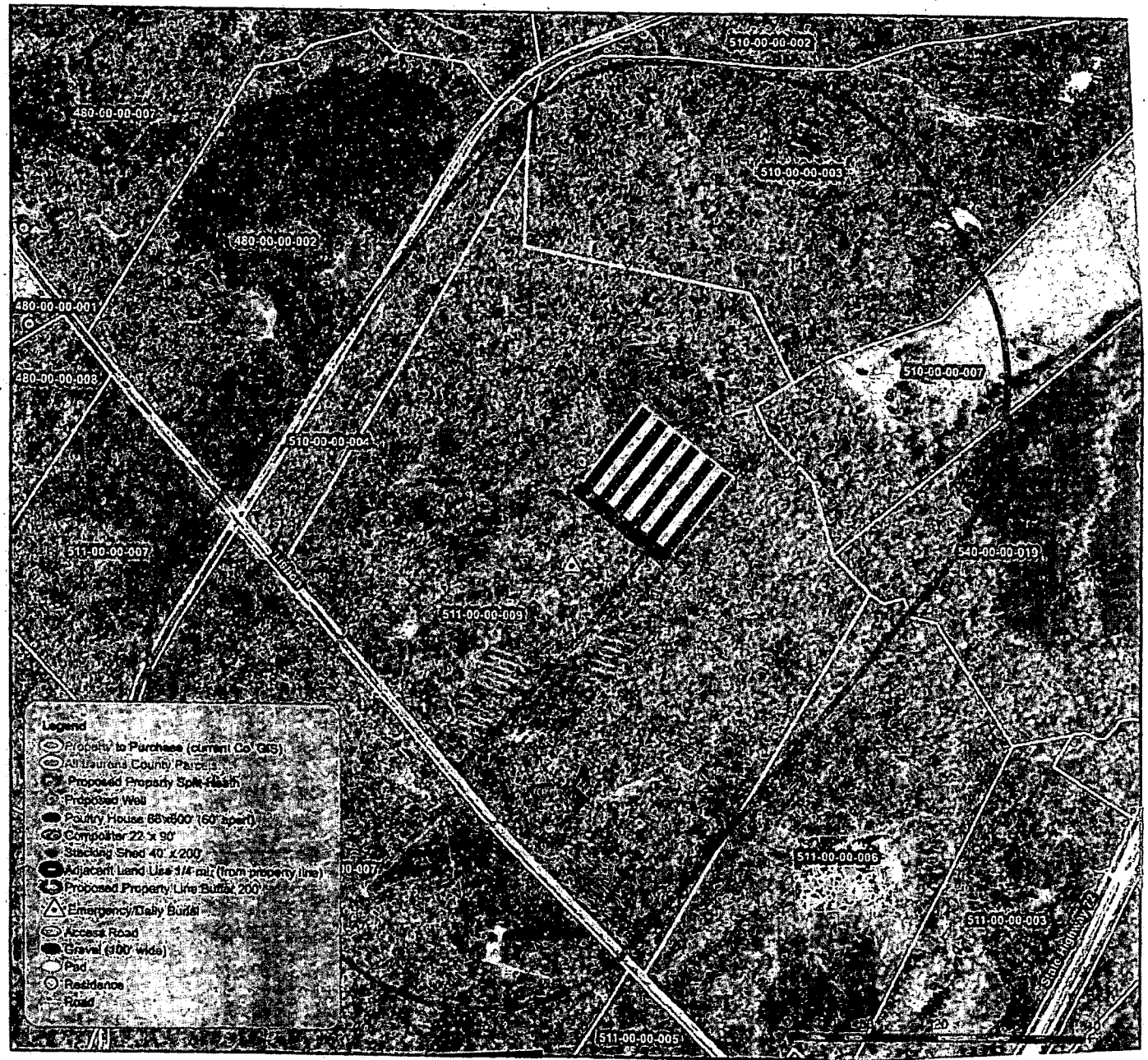
Heath Coggins
Laurens Co., SC

Tax numbers
511-00-00-009

The current property line is drawn in yellow. Heath will purchase a portion of 511-00-00-009 and 510-00-00-004. The proposed property split is shown with a red dotted line.

RECEIVED
NOV 07 2016
Stormwater, Construction & Agricultural Permitting Office

Drawn By: Julie Davidson
Reviewed By: Chris Mosley
Date: 9.21.16



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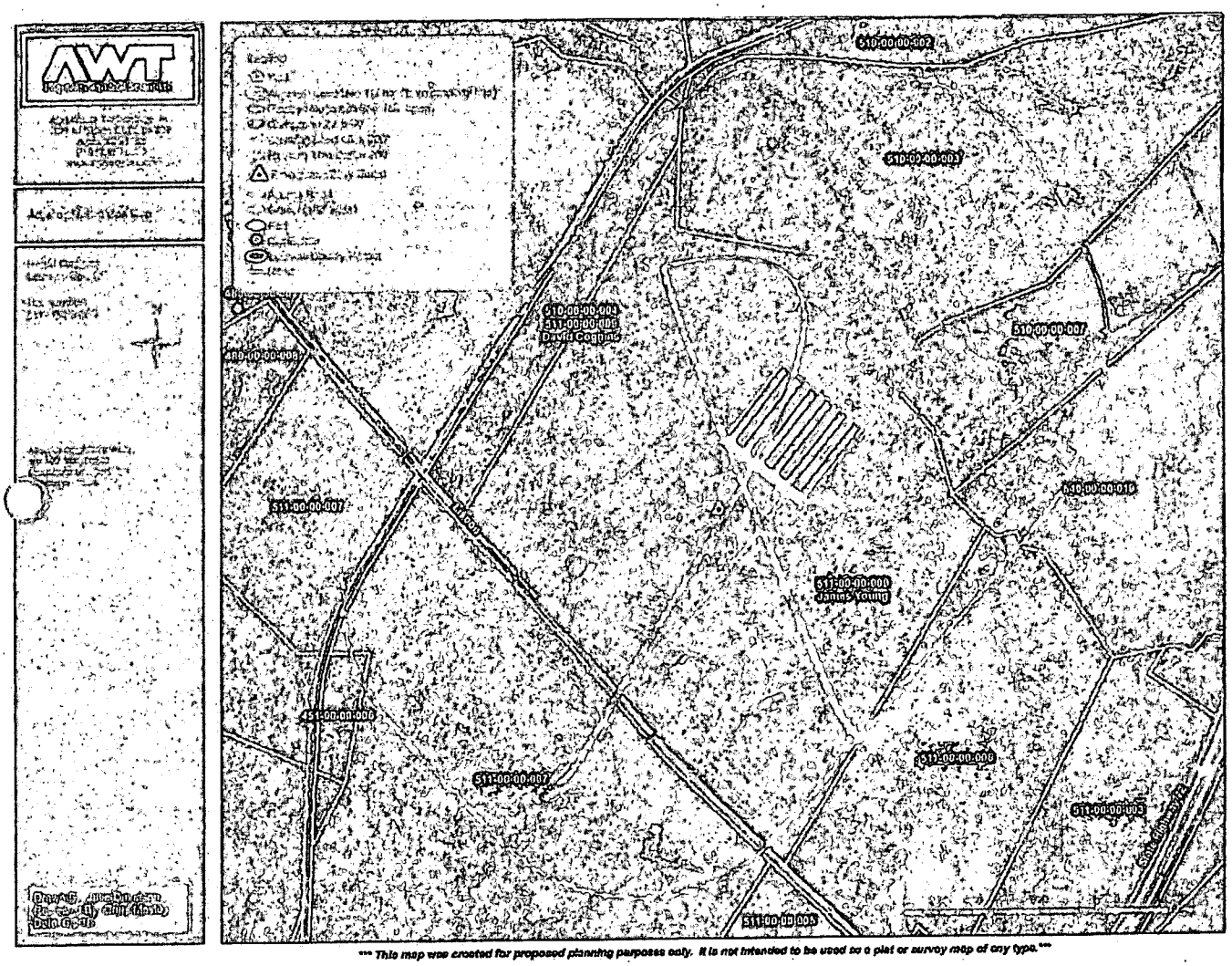

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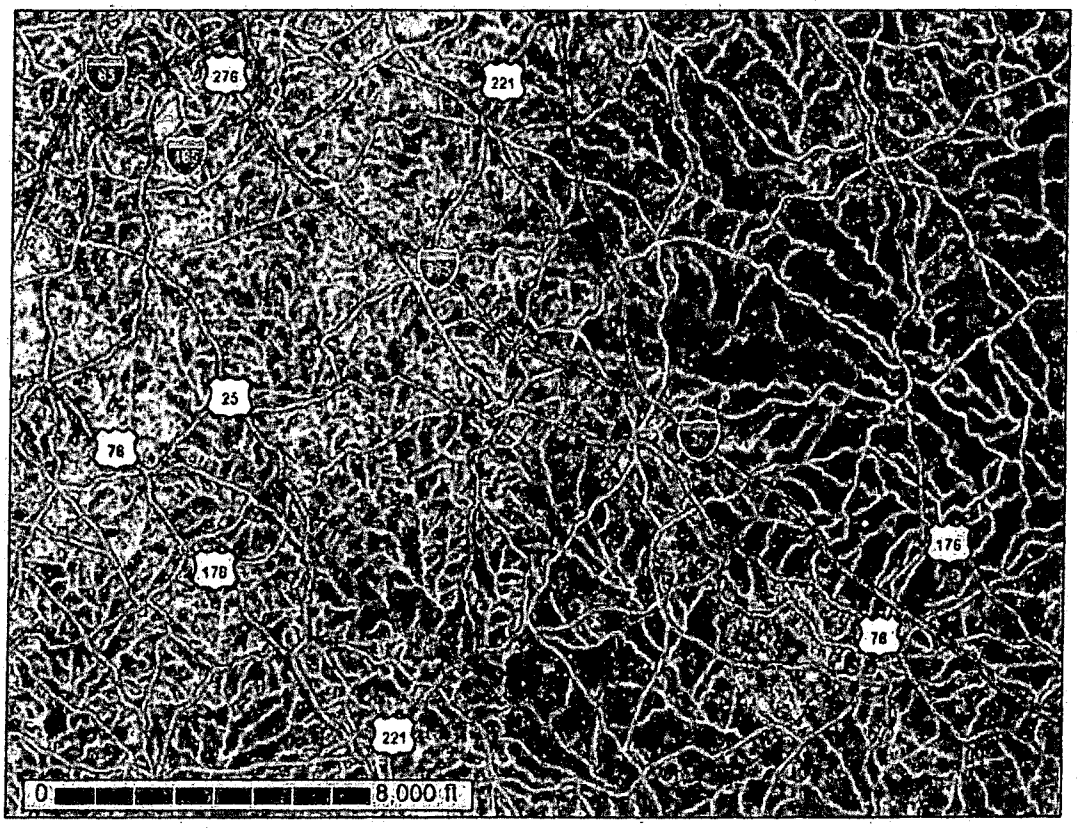
USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Laurens County, South Carolina

Heath Coggins CNMP



May 26, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

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individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Map Unit Legend

Laurens County, South Carolina (SC059)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CIB	Cecil sandy loam, 2 to 6 percent slopes	0.0	0.0%
CIC2	Cecil sandy loam, 6 to 10 percent slopes, eroded	0.0	0.0%
CmC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	0.0	0.0%
EnC	Enon sandy loam, 6 to 10 percent slopes	0.0	0.0%
EnD	Enon sandy loam, 10 to 15 percent slopes	0.0	0.0%
HyB2	Hiwassee sandy clay loam, 2 to 6 percent slopes, eroded	0.0	0.0%
WkD	Wilkes sandy loam, 6 to 15 percent slopes	0.0	0.0%
WkF	Wilkes soils, 15 to 40 percent slopes	0.0	0.0%
Totals for Area of Interest		**461,914.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic

class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical

or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Laurens County, South Carolina

CIB—Cecil sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2q7j7
Elevation: 150 to 1,250 feet
Mean annual precipitation: 40 to 69 inches
Mean annual air temperature: 50 to 66 degrees F
Frost-free period: 180 to 280 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Cecil and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cecil

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gneiss and/or granite

Typical profile

A - 0 to 6 inches: sandy loam
Bt - 6 to 42 inches: clay
BC - 42 to 80 inches: clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

Minor Components

Cataula

Percent of map unit: 3 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Convex
Across-slope shape: Linear

Bethlehem
Percent of map unit: 2 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Convex
Across-slope shape: Linear

CIC2—Cecil sandy loam, 6 to 10 percent slopes, eroded

Map Unit Setting
National map unit symbol: 4cn3
Elevation: 200 to 1,400 feet
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Cecil and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cecil

Setting
Landform: Interfluves
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from granite, gneiss, and schist

Typical profile
Ap - 0 to 5 inches: sandy loam
Bt - 5 to 58 inches: clay
C - 58 to 79 inches: clay loam

Properties and qualities
Slope: 6 to 10 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

CmC2—Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2tqlf
Elevation: 220 to 1,160 feet
Mean annual precipitation: 40 to 69 inches
Mean annual air temperature: 50 to 66 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cecil, moderately eroded, and similar soils: 93 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cecil, Moderately Eroded

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gneiss and/or residuum weathered from granite

Typical profile

A - 0 to 3 inches: sandy clay loam
Bt - 3 to 48 inches: clay
BCt - 48 to 80 inches: sandy clay loam

Properties and qualities

Slope: 6 to 10 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B

Minor Components

Cataula, moderately eroded
Percent of map unit: 4 percent
Landform: Interfluves
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear

Bethlehem, moderately eroded
Percent of map unit: 3 percent
Landform: Interfluves
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Convex
Across-slope shape: Linear

EnC—Enon sandy loam, 6 to 10 percent slopes

Map Unit Setting
National map unit symbol: 4cng
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Not prime farmland

Map Unit Composition
Enon and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Enon

Setting
Landform: Interfluves
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from hornblende, diorite, or gabbro

Typical profile
Ap - 0 to 5 inches: sandy loam
Bt - 5 to 38 inches: clay
C - 38 to 79 inches: sandy loam

Properties and qualities
Slope: 6 to 10 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained

Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

EnD—Enon sandy loam, 10 to 15 percent slopes

Map Unit Setting
National map unit symbol: 4cnh
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Not prime farmland

Map Unit Composition
Enon and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Enon

Setting
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from hornblende, diorite, or gabbro

Typical profile
Ap - 0 to 5 inches: sandy loam
Bt - 5 to 38 inches: clay
C - 38 to 79 inches: sandy loam

Properties and qualities
Slope: 10 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

HyB2—Hiwassee sandy clay loam, 2 to 6 percent slopes, eroded

Map Unit Setting
National map unit symbol: 4cnq
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Hiwassee and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hiwassee

Setting
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from granite and gneiss

Typical profile
Ap - 0 to 4 inches: sandy clay loam
Bt - 4 to 53 inches: clay
C - 53 to 63 inches: fine sandy loam

Properties and qualities
Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

WkD—Wilkes sandy loam, 6 to 15 percent slopes

Map Unit Setting

National map unit symbol: 4cpb
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Not prime farmland

Map Unit Composition

Wilkes and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wilkes

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from hornblende, diorite, or gabbro

Typical profile

Ap - 0 to 7 inches: sandy loam
Bt - 7 to 12 inches: sandy clay loam
Cr - 12 to 24 inches: weathered bedrock
R - 24 to 79 inches: unweathered bedrock

Properties and qualities

Slope: 6 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D

WIF—Wilkes soils, 15 to 40 percent slopes

Map Unit Setting

National map unit symbol: 4cpc
Mean annual precipitation: 41 to 54 inches
Mean annual air temperature: 47 to 73 degrees F
Frost-free period: 173 to 216 days
Farmland classification: Not prime farmland

Map Unit Composition

Wilkes and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wilkes

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from hornblende, diorite, or gabbro

Typical profile

Ap - 0 to 7 inches: sandy loam
Bt - 7 to 10 inches: sandy clay loam
Cr - 10 to 20 inches: weathered bedrock
R - 20 to 79 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 40 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as

a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CtB—Cecil sandy loam, 2 to 6 percent slopes														
Cecil	0-6	45-70-85	0-20-45	5-10-20	1.30-1.40-1.50	14.00-28.00-42.00	0.12-0.13-0.14	0.2-0.4-0.9	0.5-0.5-1.0	.24	.24	5	3	86
	6-42	0-30-45	0-18-53	35-55-70	1.30-1.40-1.50	4.00-9.00-14.00	0.08-0.10-0.16	0.9-1.8-2.8	0.0-0.1-0.5	.15	.15			
	42-80	20-45-80	0-20-53	20-35-35	1.30-1.40-1.50	4.00-9.00-14.00	0.14-0.15-0.19	0.4-1.0-1.2	0.0-0.1-0.5	.17	.17			
Cataula	0-5	48-70-85	3-20-45	5-10-18	1.35-1.55-1.75	14.00-28.00-42.00	0.11-0.13-0.14	0.0-1.5-2.9	0.5-0.6-1.0	.28	.28	3	3	86
	5-16	5-32-45	1-18-52	35-53-70	1.30-1.45-1.60	1.40-3.00-4.00	0.08-0.09-0.16	0.0-1.5-2.9	0.0-0.1-0.5	.20	.20			
	16-45	8-41-80	1-18-52	30-41-50	1.75-1.85-1.95	0.42-0.80-1.40	0.08-0.07-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
	45-80	16-56-80	2-17-52	20-26-35	1.60-1.70-1.80	1.40-3.00-4.00	0.11-0.12-0.19	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
Bethlehem	0-7	53-70-85	0-18-30	8-14-20	1.00-1.25-1.50	14.00-28.00-42.00	0.12-0.13-0.14	0.0-1.5-2.9	0.5-0.5-1.5	.20	.20	3	3	86
	7-11	20-54-80	0-15-53	20-31-35	1.20-1.40-1.50	4.00-9.00-14.00	0.14-0.16-0.19	0.0-1.5-2.9	0.0-0.3-0.5	.17	.17			
	11-39	0-36-45	0-20-53	35-45-85	1.30-1.40-1.50	4.00-9.00-14.00	0.08-0.10-0.16	0.0-1.5-2.9	0.0-0.3-0.5	.15	.15			
	39-42	—	—	—	—	0.01-0.20-0.42	0.00-0.00-0.01	—	—					
	42-80	—	—	—	—	0.00-0.10-0.42	0.00-0.00-0.01	—	—					

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Physical Soil Properties--Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CIC2—Cecil sandy loam, 5 to 10 percent slopes, eroded														
Cecil	0-5	-68-	-20-	5-13- 20	1.30-1.40-1.50	14.00-28.00-42.00	0.12-0.13-0.14	0.0- 1.5- 2.9	0.5- 0.8- 1.0	.20	.20	5	3	86
	5-58	-26-	-23-	35-63- 80	1.30-1.40-1.50	4.00-9.00-14.00	0.13-0.14-0.15	0.0- 1.5- 2.9	0.0- 0.1- 0.2	.17	.17			
	58-79	-35-	-30-	15-35- 40	1.30-1.40-1.50	4.00-9.00-14.00	0.13-0.14-0.15	0.0- 1.5- 2.9	0.0- 0.1- 0.2	.28	.28			

Physical Soil Properties--Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/in*	*Pct*	*Pct*					
CmC2—Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded														
Cecil, moderately eroded	0-3	58-65-75	0-10-25	10-25-32	1.47-1.54-1.61	14.00-28.00-42.00	0.11-0.13-0.16	0.3-0.9-1.3	0.5-0.5-1.0	.10	.10	5	5	56
	3-48	21-30-44	6-15-29	35-55-69	1.38-1.44-1.50	4.00-9.00-14.00	0.13-0.13-0.19	1.2-2.4-3.1	0.0-0.1-0.5	.10	.10			
	48-80	40-54-70	5-15-33	22-31-34	1.42-1.53-1.64	4.00-9.00-14.00	0.16-0.18-0.20	0.6-1.2-1.8	0.0-0.1-0.5	.20	.20			
Celadia, moderately eroded	0-2	60-70-78	7-20-35	5-10-15	1.35-1.55-1.75	14.00-28.00-42.00	0.11-0.13-0.14	0.0-1.5-2.9	0.5-0.8-1.0	.24	.24	4	3	56
	2-35	20-32-40	5-15-30	35-53-60	1.30-1.45-1.60	1.40-3.00-4.00	0.08-0.09-0.16	0.0-1.5-2.9	0.0-0.1-0.5	.15	.15			
	35-48	21-40-60	10-29-35	30-34-50	1.75-1.85-1.95	0.42-0.90-1.40	0.06-0.07-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
	48-80	40-58-70	7-16-27	23-28-33	1.60-1.70-1.80	1.40-3.00-4.00	0.11-0.12-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.20	.20			
Bethlehem, moderately eroded	0-3	58-65-75	2-10-25	10-25-32	1.30-1.40-1.50	14.00-28.00-42.00	0.11-0.13-0.15	0.3-0.9-1.3	0.5-0.5-1.0	.10	.10	3	5	56
	3-7	40-54-65	6-15-30	25-31-34	1.20-1.40-1.60	4.00-9.00-14.00	0.14-0.16-0.19	0.0-1.5-2.9	0.0-0.3-0.5	.17	.17			
	7-27	25-36-44	5-19-29	35-45-55	1.30-1.40-1.50	4.00-9.00-14.00	0.08-0.10-0.14	0.0-1.5-2.9	0.0-0.3-0.5	.15	.15			
	27-80	—	—	—	—	0.01-0.20-0.42	0.00-0.00-0.01	—	—					

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Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
EnD—Enon sandy loam, 10 to 15 percent slopes														
Enon	0-6	-68-	-22-	5-10- 15	1.45-1.55-1.65	14.00-28.00-42.00	0.11-0.13-0.15	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.28	.28	5	3	86
	5-38	-35-	-13-	35-52- 60	1.30-1.40-1.50	0.42-1.00-1.40	0.12-0.14-0.15	6.0- 7.5- 8.9	0.1- 0.2- 0.5	.17	.17			
	38-79	-65-	-20-	10-15- 35	1.30-1.40-1.50	4.00-9.00-14.00	0.10-0.12-0.14	0.0- 1.5- 2.9	0.0- 0.1- 0.2	.24	.24			
WkD—Wilkes sandy loam, 6 to 15 percent slopes														
Wilkes	0-7	-68-	-20-	5-13- 20	1.30-1.40-1.50	14.00-28.00-42.00	0.11-0.13-0.15	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.24	.24	2	3	86
	7-12	-60-	-10-	20-30- 45	1.40-1.50-1.60	1.40-3.00-4.00	0.15-0.18-0.20	3.0- 4.5- 5.9	0.1- 0.3- 0.5	.24	.24			
	12-24	—	—	—	—	0.10-1.00-2.00	—	—	—					
	24-79	—	—	—	—	0.00-0.01-0.10	—	—	—					

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Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion.

There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CIB—Cecil sandy loam, 2 to 6 percent slopes														
Cecil	0-6	45-70-85	0-20-45	5-10-20	1.30-1.40-1.60	14.00-28.00-42.00	0.12-0.13-0.14	0.2-0.4-0.9	0.5-0.5-1.0	.24	.24	5	3	86
	6-42	0-30-45	0-16-53	35-55-70	1.30-1.40-1.60	4.00-9.00-14.00	0.08-0.10-0.16	0.9-1.8-2.8	0.0-0.1-0.5	.15	.15			
	42-80	20-45-80	0-20-53	20-35-35	1.30-1.40-1.50	4.00-9.00-14.00	0.14-0.15-0.19	0.4-1.0-1.2	0.0-0.1-0.5	.17	.17			
Cataula	0-5	48-70-85	3-20-45	5-10-15	1.35-1.55-1.75	14.00-28.00-42.00	0.11-0.13-0.14	0.0-1.5-2.9	0.5-0.8-1.0	.28	.28	3	3	86
	5-16	5-32-45	1-16-52	35-53-70	1.30-1.45-1.60	1.40-3.00-4.00	0.08-0.09-0.16	0.0-1.5-2.9	0.0-0.1-0.5	.20	.20			
	16-45	5-41-80	1-19-52	30-41-50	1.75-1.85-1.95	0.42-0.90-1.40	0.06-0.07-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
	45-80	15-58-80	2-17-52	20-25-35	1.50-1.70-1.80	1.40-3.00-4.00	0.11-0.12-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
Bethlehem	0-7	53-70-85	0-18-30	8-14-20	1.00-1.25-1.50	14.00-28.00-42.00	0.12-0.13-0.14	0.0-1.5-2.9	0.5-0.6-1.5	.20	.20	3	3	86
	7-11	20-54-80	0-15-53	20-31-35	1.20-1.40-1.50	4.00-9.00-14.00	0.14-0.16-0.19	0.0-1.5-2.9	0.0-0.3-0.5	.17	.17			
	11-39	0-36-45	0-20-53	35-45-65	1.30-1.40-1.50	4.00-9.00-14.00	0.08-0.10-0.16	0.0-1.5-2.9	0.0-0.3-0.5	.15	.15			
	39-42	—	—	—	—	0.01-0.20-0.42	0.00-0.00-0.01	—	—					
	42-80	—	—	—	—	0.00-0.10-0.42	0.00-0.00-0.01	—	—					

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Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CIC2—Cecil sandy loam, 6 to 10 percent slopes, eroded														
Cecil	0-5	-68-	-20-	5-13-20	1.30-1.40-1.50	14.00-28.00-42.00	0.12-0.13-0.14	0.0-1.5-2.9	0.5-0.8-1.0	.20	.20	5	3	86
	5-58	-25-	-23-	35-53-60	1.30-1.40-1.50	4.00-9.00-14.00	0.13-0.14-0.15	0.0-1.5-2.9	0.0-0.1-0.2	.17	.17			
	58-79	-35-	-30-	15-35-40	1.30-1.40-1.50	4.00-9.00-14.00	0.13-0.14-0.15	0.0-1.5-2.9	0.0-0.1-0.2	.28	.28			

Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CmC2—Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded														
Cecil, moderately eroded	0-3	58-65-75	0-10-25	10-25-32	1.47-1.54-1.61	14.00-28.00-42.00	0.11-0.13-0.15	0.3-0.9-1.3	0.5-0.5-1.0	.10	.10	5	5	56
	3-48	21-30-44	6-15-29	35-55-59	1.38-1.44-1.50	4.00-9.00-14.00	0.13-0.13-0.19	1.2-2.4-3.1	0.0-0.1-0.5	.10	.10			
	48-80	40-54-70	5-15-33	22-31-34	1.42-1.53-1.64	4.00-9.00-14.00	0.16-0.18-0.20	0.6-1.2-1.8	0.0-0.1-0.5	.20	.20			
Cataula, moderately eroded	0-2	60-70-78	7-20-35	5-10-16	1.35-1.55-1.75	14.00-28.00-42.00	0.11-0.13-0.14	0.0-1.5-2.9	0.5-0.8-1.0	.24	.24	4	3	86
	2-35	20-32-40	5-15-30	35-53-60	1.30-1.45-1.60	1.40-3.00-4.00	0.08-0.09-0.10	0.0-1.5-2.9	0.0-0.1-0.5	.15	.15			
	35-48	21-40-50	10-26-33	30-34-60	1.75-1.85-1.95	0.42-0.90-1.40	0.06-0.07-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.24	.24			
	48-80	40-56-70	7-16-27	23-28-33	1.60-1.70-1.80	1.40-3.00-4.00	0.11-0.12-0.13	0.0-1.5-2.9	0.0-0.1-0.5	.20	.20			
Bethlehem, moderately eroded	0-3	58-65-75	2-10-25	10-25-32	1.30-1.40-1.50	14.00-28.00-42.00	0.11-0.13-0.15	0.3-0.9-1.3	0.5-0.5-1.0	.10	.10	3	5	56
	3-7	40-54-65	6-15-30	26-31-34	1.20-1.40-1.50	4.00-9.00-14.00	0.14-0.16-0.19	0.0-1.5-2.9	0.0-0.3-0.5	.17	.17			
	7-27	25-38-44	5-19-29	35-45-55	1.30-1.40-1.50	4.00-9.00-14.00	0.08-0.10-0.14	0.0-1.5-2.9	0.0-0.3-0.5	.15	.15			
	27-80	—	—	—	—	0.01-0.20-0.42	0.00-0.00-0.01	—	—					

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Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
EnC—Enon sandy loam, 6 to 10 percent slopes														
Enon	0-5	-68-	-22-	5-10- 15	1.45-1.55-1.65	14.00-28.00-42.00	0.11-0.13-0.15	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.28	.28	5	3	86
	5-38	-35-	-13-	35-52- 60	1.30-1.40-1.50	0.42-1.00-1.40	0.12-0.14-0.15	6.0- 7.5- 8.9	0.1- 0.2- 0.5	.17	.17			
	38-79	-65-	-20-	10-15- 35	1.30-1.40-1.50	4.00-9.00-14.00	0.10-0.12-0.14	0.0- 1.5- 2.9	0.0- 0.1- 0.2	.24	.24			
EnD—Enon sandy loam, 10 to 15 percent slopes														
Enon	0-5	-68-	-22-	5-10- 15	1.45-1.55-1.65	14.00-28.00-42.00	0.11-0.13-0.15	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.28	.28	5	3	86
	5-38	-35-	-13-	35-52- 60	1.30-1.40-1.50	0.42-1.00-1.40	0.12-0.14-0.15	6.0- 7.5- 8.9	0.1- 0.2- 0.5	.17	.17			
	38-79	-65-	-20-	10-15- 35	1.30-1.40-1.50	4.00-9.00-14.00	0.10-0.12-0.14	0.0- 1.5- 2.9	0.0- 0.1- 0.2	.24	.24			

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Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
HyB2—Hiwassee sandy clay loam, 2 to 6 percent slopes, eroded														
Hiwassee	0-4	-64-	- 9-	20-27- 35	1.35-1.45-1.65	4.00-9.00-14.00	0.12-0.14-0.16	0.0- 1.5- 2.9	0.3- 1.3- 1.8	.17	.17	5	6	56
	4-53	-23-	-29-	35-48- 60	1.30-1.38-1.45	4.00-9.00-14.00	0.12-0.14-0.15	0.0- 1.5- 2.9	0.1- 0.2- 0.5	.20	.20			
	53-63	-64-	-21-	7-15- 35	1.45-1.55-1.65	4.00-9.00-14.00	0.10-0.12-0.14	0.0- 1.5- 2.9	0.0- 0.1- 0.2	.32	.32			
WkD—Wilkes sandy loam, 6 to 15 percent slopes														
Wilkes	0-7	-68-	-20-	5-13- 20	1.30-1.40-1.50	14.00-28.00-42.00	0.11-0.13-0.16	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.24	.24	2	3	86
	7-12	-60-	-10-	20-30- 45	1.40-1.50-1.60	1.40-3.00-4.00	0.15-0.18-0.20	3.0- 4.5- 5.9	0.1- 0.3- 0.5	.24	.24			
	12-24	—	—	—	—	0.10-1.00-2.00	—	—	—					
	24-79	—	—	—	—	0.00-0.01-0.10	—	—	—					

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Physical Soil Properties–Laurens County, South Carolina														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
WlF—Wilkes soils, 15 to 40 percent slopes														
Wilkes	0-7	-68-	-20-	5-13- 20	1.30-1.40-1.50	14.00-28.00-42.00	0.11-0.13-0.16	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.24	.24	2	3	86
	7-10	-60-	-10-	20-30- 45	1.40-1.50-1.60	1.40-3.00-4.00	0.15-0.18-0.20	3.0- 4.5- 5.9	0.1- 0.3- 0.5	.24	.24			
	10-20	---	---	---	---	0.10-1.00-2.00	---	---	---					
	20-79	---	---	---	---	0.00-0.01-0.10	---	---	---					

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Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely

grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

1403

Absence of an entry indicates that the data were not estimated. The dash indicates no documented presence.

DHEC_002134

1404

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CfB—Cecil sandy loam, 2 to 6 percent slopes										
Cecil	B	Low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1405

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
			December	—	—	—	—	None	—	None
Cataula	D	Medium	January	2.0-4.0	3.0-4.9	—	—	None	—	None
			February	2.0-4.0	3.0-4.9	—	—	None	—	None
			March	2.0-4.0	3.0-4.9	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	2.0-4.0	3.0-4.9	—	—	None	—	None
Bethlehem	D	Low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1406

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
CtC2—Cecil sandy loam, 6 to 10 percent slopes, eroded										
Cecil	B	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1407

Water Features—Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
CmC2—Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded										
Cecil, moderately eroded	B	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1408

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
Cataula, moderately eroded	C	Medium	January	2.0-4.0	3.0-6.7	—	—	None	—	None
			February	2.0-4.0	3.0-6.7	—	—	None	—	None
			March	2.0-4.0	3.0-6.7	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	2.0-4.0	3.0-6.7	—	—	None	—	None
Bethlehem, moderately eroded	C	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1409

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
EnD—Enon sandy loam, 10 to 15 percent slopes										
Enon	C	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1410

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
WkD—Wilkes sandy loam, 6 to 15 percent slopes										
Wilkes	D	Very high	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1411

Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is

unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Absence of an entry indicates that the data were not estimated. The dash indicates no documented presence.

1414

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
CIB—Cecil sandy loam, 2 to 6 percent slopes										
Cecil	B	Low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1415

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
Cataula	D	Medium	January	2.0-4.0	3.0-4.9	—	—	None	—	None
			February	2.0-4.0	3.0-4.9	—	—	None	—	None
			March	2.0-4.0	3.0-4.9	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	2.0-4.0	3.0-4.9	—	—	None	—	None
Bethlehem	D	Low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1416

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
CtC2—Cecil sandy loam, 6 to 10 percent slopes, eroded										
Cecil	B	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1417

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
CmC2—Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded										
Cecil, moderately eroded	B	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1418

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
Cataula, moderately eroded	C	Medium	January	2.0-4.0	3.0-6.7	—	—	None	—	None
			February	2.0-4.0	3.0-6.7	—	—	None	—	None
			March	2.0-4.0	3.0-6.7	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	2.0-4.0	3.0-6.7	—	—	None	—	None
Bethlehem, moderately eroded	C	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

1419

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			December	—	—	—	—	None	—	None
EnC—Enon sandy loam, 6 to 10 percent slopes										
Enon	C	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1420

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
EnD—Enon sandy loam, 10 to 15 percent slopes										
Enon	C	Medium	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1421

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
HyB2—Hiwassee sandy clay loam, 2 to 6 percent slopes, eroded										
Hiwassee	B	Low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1422

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
WkD—Wilkes sandy loam, 6 to 15 percent slopes										
Wilkes	D	Very high	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1423

Water Features–Laurens County, South Carolina										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
WtF—Wilkes soils, 15 to 40 percent slopes										
Wilkes	D	Very high	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

1424

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2.2. Production Area Conservation Practices

A list and description of the planned and existing conservation practices to addresses the resource concerns and producer goals is included. In addition to the listing of the conservation practices, amount and year of installation, a description of the operation and maintenance are included.

All NRCS conservation practices shall be installed, operated and maintained according to NRCS conservation practice standards and associated technical specifications.

Practice and Facility Management Plan

Planned Practices	Amount	Planned Year of Installation
Critical Area Planting (342)	1.42 ac	2016
Animal Mortality Facility 316 - Composter	22' X 90'	2017
Waste Storage Facility 313 – Stacking Shed	2 X 40' X 200'	2017

Operation & Maintenance

Animal Mortality Facility (316)
An on-farm facility for the treatment or disposal of livestock and poultry carcasses.

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- Decrease non-point source pollution of surface and groundwater resources
- Reduce the impact of odors that result from improperly handled animal mortality
- Decrease the likelihood of the spread of disease or other pathogens that result from the interaction of animal mortality and predators
- To provide contingencies for normal and catastrophic mortality events

Waste Storage Facility (313)
A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.

To temporarily store wastes such as manure, wastewater, and contaminated runoff as a storage function component of an agricultural waste management system.

Stacking Shed

1. Fires can develop in stacked poultry litter through spontaneous combustion. Special precautions should be taken to prevent this from happening.
2. Pile height should not exceed 5 feet. Storing the material in separate small windrows reduces the cross sectional area and is the safest option for stacking.
3. KEEP THE LITTER DRY! Do not wet the litter in the hope of preventing a fire; just the opposite may occur. In addition, protect the litter from blowing rain.
4. Avoid placing the wet material in contact with dry material. Do not layer new litter on top of old, and do not let dead poultry compost come into contact with stored litter.
5. Do not compact the material by driving over it or packing it with equipment.
6. If litter is stored against wooden walls, limit the litter height to 4 feet.
7. Monitor temperatures at different points in the pile frequently. If temperatures exceed 190°F, or if the material is smoldering, prepare to remove material from the building. This includes notifying the local fire department to be on hand. A smoldering pile could burst into flames if exposed to air. A garden hose could be inadequate to extinguish the fire.
8. Do not store equipment in the litter storage structure.
9. At least twice per year, when the facility is empty, inspect wooden parts, hardware, or other replaceable parts that are damaged or show excessive wear or decay.
10. All disturbed areas around the facilities should be vegetated or covered with gravel to prevent erosion.
11. Warning signs, fences, guardrails, and other safety features will be installed and maintained to prevent unauthorized entry to any structure.

Critical Area Planting (342)

Establish permanent vegetation on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

- Stabilize areas with existing or expected high rates of soil erosion by water.
- Stabilize areas with existing or expected high rates of soil erosion by wind.
- Restore degraded sites that cannot be stabilized through normal methods.

Plan for Establishing Vegetation

Vegetation establishment is required around the buildings and storage structures to reduce soil erosion, this offsite nutrient and pathogen transport.

All disturbed areas including slopes of pads will be planted to permanent vegetation. If construction is during seasons not suited for planting warm or cool season grasses, temporary vegetation will be established until the recommended planting dates. The following specifications will be used to establish the grasses.

- Lime at rate of 1.5 tons per acre
- Fertilize at rate of 100 units of Nitrogen, Phosphorus, and Potassium per acre
- Mulch slopes greater that 4 to 1
- For planting dates from 1 September to 15 December
  - 40 lbs. fescue per acre
  - 10 lbs. unhulled Bermuda grass per acre
  - 10 lbs. of wheat per acre
- For planting dates from 1 March to 30 June
  - 10 lbs. of Bermuda grass per acre
  - 10 lbs. of Bahaia grass per acre
  - 10 lbs. of Browntop millet per acre

2.3. Manure Storage

Storage ID	Type of Storage	Pumpable or Spreadable Capacity	Annual Manure Collected	Maximum Days of Storage
Broiler House	In-house litter storage	1,449 Tons	1,449 Tons	365
SS1	Poultry manure dry stack	550 Tons	0 Tons	
SS2	Poultry manure dry stack	550 Tons	0 Tons	

2.4. Animal Inventory

Animal Group	Type or Production Phase	Number of Animals	Average Weight (Lbs)	Confinement Period	Manure Collected (%)	Storage Where Manure Will Be Stored
Broilers	Broiler	237,600	4.55	Jan Early - Dec Late	100	Broiler House

(1) Number of Animals is the average number of animals that are present in the production facility at any one time.

2.5. Normal Animal Mortality Management

To decrease non-point source pollution of surface and ground water resources, reduce the impact of odors that result from improperly handled animal mortality, and decrease the likelihood of the spread of disease or other pathogens, approved handling and utilization methods shall be implemented in the handling of normal mortality losses. If on-farm storage or handling of animal mortality is done, NRCS Standard 316, Animal Mortality Facility, will be followed for proper management of dead animals.

Plan for Proper Animal Mortality Management

The following narrative describes how normal animal mortality will be managed in a manner that protects surface and ground water quality.

Burial

Dig a large pit or trench as located on the plan map. Insert dead animals daily, and cover them with one to two feet of soil.

The pit should be graded so that it does not impound water. Runoff from the pit should flow into a grass filter. Note: When adequate drainage is not provided, these pits or trenches fill with water and carcasses may actually float to the surface. The water in the pit is very bacteria-laden and may be a hazard to both animal and human health. There is also high potential for ground water contamination from both bacteria and nutrients.

Burial trenches and pits must have at least a 2.0 foot separation between the bottom of the trench and groundwater.

The pits should also have a berm to divert rainfall and runoff from the site. The soil should be able to infiltrate any rainfall that falls directly into the pit.

Vectors (dogs, rats, snakes, flies, etc.) are potential problems in a burial situation. If a producer chooses this method for disposal of dead animals, the carcasses must be covered daily as to reduce vectors in and around the trench or pit.

When a burial pit is full, the site should be capped with a mound of soil so that precipitation is not allowed to collect in the closed pit. Also, the area should be grassed as to prevent erosion. The burial area should be monitored so that these conditions remain after settling of decomposing carcasses and capping material.

Composting

For proper composting, correct proportions of carbon, nitrogen, moisture, and oxygen need to be present in the mix. Common carbon sources are sawdust or wheat straw. It is desirable because of its bulking ability, which allows entry of oxygen. Other carbon sources that could be used are peanut hulls, cottonseed hulls, sawdust, leaves, etc. If lab testing of the litter or experience indicates that the carbon/nitrogen ratio is adequate (20 - 35:1 ratio), then litter alone should be sufficient for composting mortality as long as desirable bulking ability is achieved and moisture is properly managed. Moisture management is critical and must be maintained between 40 and 55 percent (40% -does not leave your hand moist when squeezed, 55% - if more than two drops drip from your hand the material is too moist).

Recipe for composting broiler mortality

INGREDIENT	VOLUME	WEIGHTS
Straw	1.0	0.10
Carcasses	1.0	1.0
Litter	1.5	1.2
Water	0.5	0.75

Compost layering procedure

a. The first layer is one foot of litter.

b. A 4-6 inch layer of carbon amendment (sawdust is preferred) is added according to the recipe

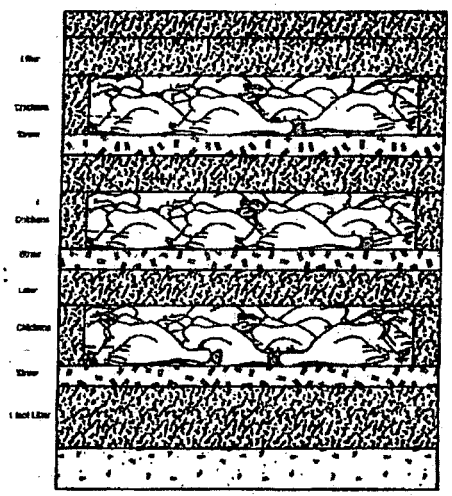
c. A layer of carcasses is added. Carcasses shall be laid side-by-side and shall not be stacked on top of one another. Carcasses placed directly on dirt or concrete floors, or against bin walls will not compost properly.

d. Water is added (uniform spray).

e. Carcasses are covered with a 6-inch layer of litter.

f. Next layer of carcasses begun with carbon amendment and above steps repeated.

g. When composter is full, cap the 6-inch layer with four additional inches.



Maintain the moisture content at 40 to 55 percent during the composting process (40% - does not leave your hand moist when squeezed, 55% will allow about one drop of water to be released when squeezed, > 55% - if more than two drops drip from your hand the material is too moist, therefore add sawdust or dry carbon source).

Temperature is the primary indicator to determine if the composting process is working properly. A minimum temperature of 130 ₀F shall be reached during the composting process. A temperature of 140 ₀F is optimum; however, temperatures may range up to 160 ₀F. If the minimum temperature is not reached, the resulting compost shall be incorporated immediately after land application or recomposted by turning and adding moisture as needed. Compost managed at the required temperatures will favor destruction of any pathogens and weed seeds.

Good carcass compost should heat up to the 140° range within a few days. Failure of the compost material to heat up properly normally results from two causes. First, the nitrogen source is inadequate (example wet or leached litter). A pound of commercial fertilizer spread over a carcass layer will usually solve this problem. Secondly, the compost fails when too much water has been added and the compost pile becomes anaerobic. An anaerobic compost bin is characterized by temperatures less than 120°, offensive odors, and black oozing compound flowing from the bottom of the compost bin. In this case a drier bulking / carbon amendment should be added to dry the mix. Then, the material should be remixed and composted.

It is possible, though unlikely, for the temperature to rise above the normal range and create conditions suitable for spontaneous combustion. If temperature rises above 170° F, the material should be removed from the bin and cooled, spread on the ground to a depth not to exceed six inches in an area away from buildings. Water should be added only if flames occur. If temperature falls significantly during the composting period and odors develop, or if

material does not reach operating temperature, investigate piles for moisture content, porosity, and thoroughness of mixing.

After this first stage process, the material should be turned into a second bin and allowed to go through a second heat process. For larger birds, especially turkeys, a third turning may be necessary for complete degradation of the birds. Typically, the process can be considered "done" within 21-28 days from the time the compost is filled for broilers. For turkeys, the process usually requires about 60 days. After the heat process, curing period of one to three months is usually required before the material is stable.

Compost may be land applied after the secondary or tertiary composting. If any animal parts are still in the mix, the material must be incorporated. If immediate application is not possible the material should be stored using the same requirements as that of stored litter in the Stacking Shed O&M statement. Inspect compost structure at least twice annually when the structure is empty. Replace any broken or badly worn parts or hardware. Patch concrete floors and curbs as necessary to assure water tightness. Examine roof structures for structural integrity and leaks. Inspections shall be documented on the attached worksheet.

2.6. Planned Manure Exports off the Farm

Month-Year	Manure Source	Amount	Receiving Operation
Jan 2017	SS1	441 Tons	L & M Litter Brokers
Mar 2017	SS1	550 Tons	L & M Litter Brokers
Mar 2017	SS2	550 Tons	L & M Litter Brokers
Jan 2018	SS1	283 Tons	L & M Litter Brokers
Jan 2018	SS2	360 Tons	L & M Litter Brokers
Apr 2018	SS1	462 Tons	L & M Litter Brokers
Apr 2018	SS2	462 Tons	L & M Litter Brokers
Dec 2018	SS1	360 Tons	L & M Litter Brokers
Mar 2019	SS1	486 Tons	L & M Litter Brokers
Mar 2019	SS2	485 Tons	L & M Litter Brokers
Jan 2020	SS1	360 Tons	L & M Litter Brokers
Jan 2020	SS2	283 Tons	L & M Litter Brokers
Mar 2020	SS1	404 Tons	L & M Litter Brokers
Mar 2020	SS2	405 Tons	L & M Litter Brokers

2.7. Planned Manure Imports onto the Farm

Month-Year	Manure's Animal Type	Amount	Originating Operation	Location

2.8. Planned Internal Transfers of Manure

Month-Year	Manure Source	Amount	Manure Destination
Jun 2016	Broiler House	95 Tons	SS1
Sep 2016	Broiler House	251 Tons	SS1
Dec 2016	Broiler House	95 Tons	SS1
Mar 2017	Broiler House	550 Tons	SS2
Mar 2017	Broiler House	550 Tons	SS1
May 2017	Broiler House	95 Tons	SS2
Aug 2017	Broiler House	170 Tons	SS2
Nov 2017	Broiler House	95 Tons	SS2
Jan 2018	Broiler House	283 Tons	SS1
Apr 2018	Broiler House	462 Tons	SS2
Apr 2018	Broiler House	462 Tons	SS1
Jun 2018	Broiler House	95 Tons	SS1
Sep 2018	Broiler House	170 Tons	SS1
Dec 2018	Broiler House	95 Tons	SS1
Mar 2019	Broiler House	485 Tons	SS2
Mar 2019	Broiler House	486 Tons	SS1
May 2019	Broiler House	95 Tons	SS1
Aug 2019	Broiler House	170 Tons	SS1
Nov 2019	Broiler House	95 Tons	SS1
Jan 2020	Broiler House	283 Tons	SS2
Mar 2020	Broiler House	404 Tons	SS1
Mar 2020	Broiler House	405 Tons	SS2

(1) 95 ton events are crustings
(2) Events occurring in March and April are full cleanouts
(3) All other events are windrow cleanouts.

Section 3. Farmstead Safety and Security

3.1. Emergency Action Plan

This plan will be implemented in the event that animal by-products from your operation are leaking, overflowing, running off site or there is imminent danger that such may occur from damage or failure of the system or a threatening natural occurrence, such as a hurricane. You should not wait until manure reach surface water or leave your property to consider that you have a problem. You should make every effort to ensure that this does not happen. This plan should be posted in an accessible location for all employees at the facility. The following are some action items you should take.

1. **Threatening Natural Occurrences**
   Prevent or minimize damage caused by threatening natural occurrences, such as hurricanes or strong storms associated with approaching fronts - actions include:

   a. Do not spread manure on fields just prior to an approaching storm.
   b. Do not spread manure on fields that flood during high rainfall events.
   c. Notify State Veterinary Office - Animal Emergency Response Coordinator (See Table below) or Local Animal Emergency Response Coordinator for relocation of animals if needed.

2. **Personal injury**
   a. Stop all other activities to deal with the emergency.
   b. Call for help (See Table below).

3. **Catastrophic deaths – Disease Related**
   a. Notify State Veterinary Office.
   b. Limit exposure to other animals.
   c. Prevent visitation by unnecessary people.
   d. Dead animals should be moved into a DHEC approved transport vehicle or a DHEC approved storage area or bin.
   e. Record date of catastrophic deaths, number of deaths, method and location of disposal.

4. **Catastrophic deaths – Disaster Related**
   a. Notify State Veterinary Office - Animal Emergency Response Coordinator immediately. (See Table below)
   b. Notify the integrator, Amick Farms, or farm manager to remove useable animals.
   c. Dispose of mortality in the manner given in this CNMP for emergency dead animal disposal.
   d. Record date of catastrophic deaths, number of deaths, method and location of disposal.

5. **Land Application Manure/Waste Discharge Emergency**
   a. Stop all other activities to deal with the emergency.
   b. Assess the extent of the emergency and determine how much help is needed.
   c. Call for help if needed.
   d. If spilled on the road, call the sheriff's office for traffic control and clean the spill immediately from the road and roadside if needed.
   e. Contain the spill or runoff from entering the stream or waterway using straw bales, saw dust, or soil material.
   f. Prevent further runoff by incorporating the waste.
   g. Initiate additional containment measures, corrective measures, or property restoration measures as directed by emergency agency officials.

6. **Manure Removal**
   a. Place manure in stacking structure if available. Do not stack old manure next to new or wet manure next to dry.
   b. Cover any manure stacks for temporary storage with plastic and weight down the edges. Cut a 4" diameter hole in the top and cover the hole with screen wire.

7. **Fire**
   a. Stop all other activities to deal with the emergency.
   b. Try to extinguish the fire with the appropriate rated fire extinguishers.
   c. If fire cannot be contained, call for help (See Table below)

8. **Assess the extent of the spill and note any obvious damages.**
   a. Did the by-product reach any surface waters?
   b. Approximately how much was released and for what duration?
   c. Any damage noted, such as employee injury, fish kills, or property damage?
   d. Did the spill leave the property?
   e. Did the spill have the potential to reach surface waters?
   f. Could a future rain event cause the spill to reach surface waters?
   g. Are potable water wells in danger (either on or off of the property)?
   h. How much reached surface waters?

9. **Provide the following information when reporting an emergency.**
   a. Your name and phone number.
   b. Directions to the farm.
   c. Description of emergency.
   d. Estimate of the amounts, area covered, and distance traveled.
   e. Has manure reached surface waters or major field drains?
   f. Is there any obvious damage: employee injury, fish kill, or property damage?
   g. What is currently in progress to contain situation?

10. **Implement procedures** as advised by SC DHEC and technical assistance agencies to rectify the damage, repair the system, and reassess the manure management plan to keep problems with release of manure from happening again.

11. **Documentation.** The following items shall be documented in writing and filed with the Emergency Action Plan for future reference and emergency response training.
    a. Date and time, location of spill, affected landowners.
    b. Affect of manure spill on any surface water body or potable water well.
    c. Approximately how much manure was released and for what duration.
    d. Amount of manure, if any, that left the farm property.
    e. Any damage, such as personal injury, fish kill, property damage.
    f. Cause of the spill.
    g. Procedure to handle the emergency.
    h. Clean up efforts.
    i. List of authorities called, those that responded, and the time it took for them to respond.
    j. Recommendations to prevent a reoccurrence

3.2. Biosecurity Measures

Biosecurity is critical to protecting livestock and poultry operations. Visitors must contact and check in with the producer before visiting the operation or entering any production or storage facility.

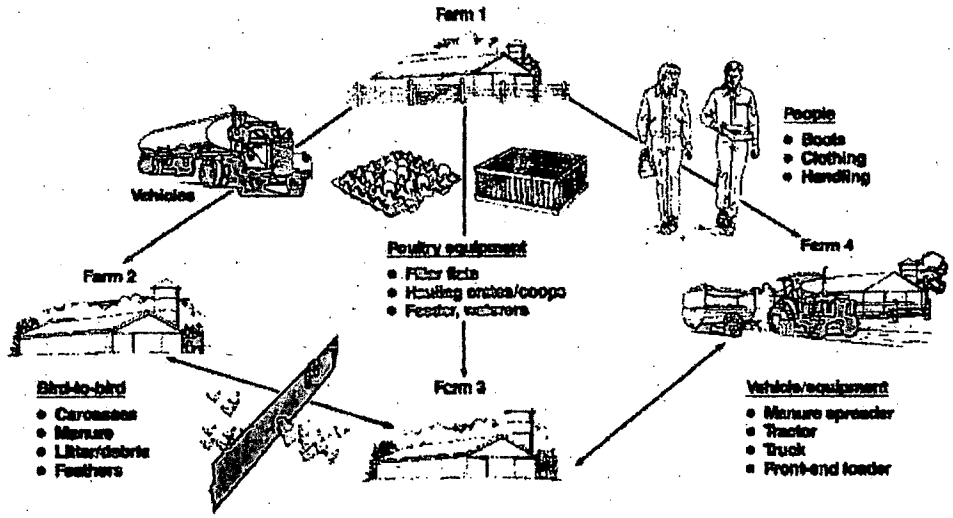
The following narrative describes how animal veterinary wastes (including medical equipment, empty containers, sharps and expired medications) will be managed at the operation.

Steps to Take to Avoid Disease Spread - Poultry

To reduce the risk of introducing disease into a flock, maintain a biosecurity barrier (physical barrier, personal hygiene, and equipment sanitation) between wildlife, poultry facilities, other commercial avian facilities, and pet birds. Some examples of good biosecurity practices include:

a. Permit only essential workers and vehicles on the premises.
b. Provide clean clothing and a disinfection procedure for employees and visitors. Know your visitor's travel history.
c. Clean and disinfect vehicles at the farm entrance.
d. Avoid visiting other avian facilities.
e. Do not keep pet birds.
f. Protect the flock from exposure to wild birds.
g. Control movement associated with the disposal of bird carcasses, litter, and manure.
h. Quarantine new additions to the flock. Never allow people or material to move from the quarantined birds to the flock.
i. Report signs of disease to your veterinarian.

How Diseases Spread



3.3 Emergency Contact Information

Farm Information

Farm Name	Heath Coggins Broilers
Address	Lisbon Rd. Near Hwy 72 Mountville, SC 29370
Farm Phone	864-872-4098
Permit #	N/A
Directions to Farm	Head E on Mountville Rd. and turn left onto SC-72 E, drive 1.8 miles. Turn left onto Lisbon Rd. drive 0.3 miles the farm is on the right.

Farm Contacts

	Name	Phone
Farm Owner/Manager	Heath Coggins	864-872-4098
Fire or Ambulance	911	911

Agency Contacts

Contact Agency	Person	Day Phone	Emergency Number
DHEC	Regional Office	864-833-5883	1-888-481-0125
State Veterinarian Emergency	Animal Response Coordinator		1-803-788-2260 ext. 700
Sheriff's Office	Laurens County Sheriff	864-984-4967	911
NRCS	County Office	864-984-6921	
Clemson Extension	County Office	864-984-2514	
Integrator	Amick Farms	864-923-2366	

Property Owner Contacts

Name	Location of Property	Day Phone
Heath Coggins	Headquarters	867-872-4098

3.4 Vector and Odor Abatement Plan

A site specific vector/odor abatement plan for Amick Farms producers is included on the following pages

Amick Farms Odor and Vector Abatement Plan for Heath Coggins Broilers

Odor Abatement Plan

Some of the potential sources of odors in and around the poultry houses may include: wet litter from leaky waterers, poultry bedding that is overloaded with manure (too little bedding relative to the amount of manure produced by the birds), spoiled or moldy feed, dust from feeders, bedding and animals, exhaust ventilation air, gaseous emissions of ammonia or hydrogen sulfide, uncovered manure piles, poorly managed stacking sheds, poorly managed or located covered manure piles, improper land application of manure, and improper disposal of dead birds. These sources may cause poor air quality in and around the facility and potentially impact the health of the farm workers, animals, and the surrounding community. Therefore, it is imperative that the farm utilizes the best management practices to control dust and odors before they become a problem.

This operation has developed this Odor Abatement Plan in order to minimize the formation of odor and dust, prevent the release of odor and dust into the atmosphere, and avoid the transportation of dust and odor to any nearby receptors in the community. Many of the potential sources of odor can be minimized by implementing some of the following best management practices for odor control: provide adequate bedding for each flock of birds, remove manure from the building as often as possible, repair all leaky waterers or pipes, clean feeding equipment regularly, remove spoiled feed regularly, remove dead animals and dispose of them promptly, cover litter stockpiles completely with an appropriate anchored and vented cover immediately after removal, avoid excess moisture in stacking sheds since excess moisture increases the amount of odor generated due to anaerobic decomposition, make sure ventilation fans are cleaned regularly and that airflow rates are adequate for the season and stage of growth, avoid orienting buildings so that ventilation fans blow exhaust air toward neighbors or adjacent roadways, land-apply manure at the appropriate times, cover manure when transporting it off site to prevent dust and spillage, incorporate manure into soil as soon as possible, land apply manure in the morning on sunny days, apply manure when winds are blowing away from neighbors, apply manure on weekdays when neighbors have a higher probability of being away from home, and finally, always contact close neighbors prior to spreading to avoid spoiling their outdoor activities.

Some specific actions that may be taken to correct an odor problem include: drying, aerating, or composting the manure; incorporating manure into the soil; or using an odor additive to eliminate the odor.

A ventilation system will be installed in the proposed poultry houses. The ventilation system will serve to maintain an adequate supply of fresh air for the birds, remove excess moisture during cold weather, remove combustion gases from heaters, provide adequate temperature control during mild weather, and limit a temperature rise during hot weather. Managing the temperature and relative humidity in the houses is an important factor in controlling ammonia levels within the house as well as odors from the poultry houses. Odors can be carried on the dust particles from a poultry facility. Dust control in the buildings is an important factor in reducing the

amount of odor at the facility. Dust control can also improve the indoor air quality of the poultry barns, which is important for animal health and worker health and safety. Dust in the buildings can result from the feed, manure, wood shavings, and animal activity. Methods to reduce dust include: cleaning and disinfecting the interior of the building between flocks; adding oil to dry ration feeds; performing proper and timely maintenance on feeders, augers, and other feed handling equipment; and managing the relative humidity (RH) in the poultry houses so that the air is not too dry (low RH).

Artificial breaking walls, trees, and other vegetation can also help to filter and disperse dust and odors from poultry houses.

Specific actions for the abatement of odor at this facility are outlined in the Odor & Vector Abatement Plan approved by the operation's integrator. The specific action plan is included in Appendix C of this plan.

Vector Abatement Plan

Some of the types of vectors that may present a problem at a poultry farm are flies, rodents, darkling beetles, mosquitoes, dogs, and birds. Most vector attraction can be greatly minimized with proper management and sanitation. The following best management practices may be utilized to prevent vector attraction: remove all excess building materials, remove any excess feed from the houses or around feed bins, keep grass and weeds mowed around the facilities, keep all buildings free of trash and debris, appropriately use and service bait stations, properly dispose of dead animals in a timely manner, and eliminate any standing water in the area surrounding the facility.

The best management practices that may be utilized to prevent vector attraction when land-applying manure are to incorporate manure immediately after application and cover any manure that may be temporarily stored prior to land application. In order to reduce the vector attraction for rodents, it is imperative to eliminate any areas which allow for harboring of rodents and prevent feed spillage. Repair any damaged feeders and keep them properly adjusted so excess feed does not accumulate in feeder bowl, trough, or around the base of the feeder. Waste feed (wet or contaminated feed) should be properly utilized or discarded. Waterers should be properly maintained and repaired to prevent leaks. Unused pens should have all feed removed and feeders cleaned. Good sanitation practices for manure management should be followed and excess manure packs along walls and curtains should be removed. The producer should conduct biweekly rodent monitoring programs. This should include all animal production buildings, feed bins, storage rooms, and office buildings. Inspect the inside and outside of the animal production buildings for signs of rodents (rodent droppings, digging activities, nests, etc.). If a bait system is used, it should be routinely inspected and refilled. If pesticides or other chemical treatments are utilized to control vectors, care should be taken to prevent resistance to the chemical. Rotation of different chemicals may prevent resistance. The integrator should be notified of any chemical or pesticide applications prior to their utilization. Care will also be taken to ensure the proper storage and disposal of any unused chemicals on this farm.

The local Clemson University Extension Service office can provide additional information on proper disposal of pesticides and chemicals. The local Clemson Extension Agent for this farm is located in Lexington SC, and can be reached at (864)923-2366.

Manure that contains fly larvae and fly pupae will be disked into the ground immediately or be treated with an appropriate fly control method. If the manure application on a land application area creates a fly problem for the community, the producer will be responsible for the control of all flies resulting from the application of the manure.

Using best management practices (BMP), such as those listed above should be utilized to prevent vector problem. However, if a vector problem occurs, corrective actions should be taken and the BMP should be closely reviewed and updated to prevent these problems in the future. The

Richard Nichols
Amick Farms LLC

Live Operations Czar
Carolina Division
Monetta, SC

(803)532-1480

3.5 Vector Control and Abatement

Management and sanitation are the real keys to preventing or eliminating any vectors' problems. If these weaknesses are not addressed, the problems will recur. Pesticides are the final tools in controlling the problem.
Most problems with insects (such as flies), rodents (such as rats and mice) and scavenging animals, (such as dogs, cats, foxes, possums, raccoons, etc.) can be minimized by keeping the facility and surroundings clean and properly maintained. This includes:

- Removing all excess building materials.
- Removal of any excess feed from the houses or around bins.
- Keeping grass and weeds mowed
- Keeping all buildings free of trash and debris.
- The proper use and servicing of bait stations.
- Proper and timely disposal of dead animals.
- Keeping all manure cleaned up caused by spillage from around the houses. Keep all temporary stored manure covered and dry.
- Any spillage of feed should be cleaned as soon as possible and all feed will be kept dry. Covers on feed storage bins should be used. Drainage away from all feed storage containers should be provided to reduce moisture accumulation.

Actions to be taken for the abatement of an insect problem:

- Mow vegetation around facility.
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Check for leaks from waterers, etc. and repair as needed.
- Remove any garbage or trash from the facility.
- Remove and dispose of all dead animals immediately and appropriately.
- Use approved baits, poisons, etc. as appropriate.

Actions to be taken for the abatement of a rodent problem:

- Mow vegetation around facility.
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Remove all excess building materials.
- Remove any garbage or trash from the facility.
- Check for damage or leaks from waterers, etc. and repair as needed.
- Remove and dispose of all dead animals immediately and appropriately.
- Use approved baits, poisons, etc. as appropriate.

Actions to be taken for the abatement of scavenging animal problems:

- Remove and dispose of all dead animals immediately and appropriately.
- Mow vegetation around facility
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Remove all excess building materials.
- Remove any garbage or trash from the facility.
- Check for digging activities that could damage or weaken buildings and repair as needed.
- Contact the proper officials for additional control measures.

For more details on specifics (rats, filth flies, etc.) information may be obtained from the Clemson Agricultural Extension Offices or the NRCS office. A source of information is also available from Clemson's South Carolina Confined Animal Manure Manager's program, in Chapter 10 of the applicable species, available at: http://www.clemson.edu/camm/.

3.6 Air Quality

NRCS does not have specific technical criteria for these considerations that are required for CNMPs. However, the following items may be considered when addressing Air Quality, most Air Quality issues are associated with odor.

Air quality in and around structures, waste storage areas, and treatment sites may be impaired by excessive dust, gaseous emissions such as ammonia, and odors. Poor air quality may impact the health of workers, animals, and persons living in the surrounding areas. Ammonia emissions from animal operations may be deposited to surface waters, increasing the nutrient load to these regions. Proper siting of structures and waste storage facilities can enhance dispersion and dilution of odorous gases. Enclosing waste storage or treatment facilities can reduce gaseous emissions from AFOs in areas with residential development in the region.

For an odor to be detected downwind, odorous compounds must be (a) formed, (b) released to the atmosphere, and (c) transported to the receptor site. These three steps provide the basis for most odor control. If any one of the steps is inhibited, the odor will diminish.

Growing and Storage Facilities

Odor problems can be prevented or reduced through adequate drainage, runoff management, proper care to keep animals and animal facilities clean and dry, and appropriate animal by-product removal, handling, and transport.

Locate animal by-product management facilities and utilization areas as far as practical from neighboring residences, recreational areas, or other conflicting land uses. Avoid sites where radical shifts in air movement occur between day and night, such as those near large bodies of water or steep topography. A component's location in relation to surrounding topography may also strongly influence the transfer of odor because of daily changes in temperature and resulting airflow. To provide optimum conditions, prevailing winds should carry odors away from nearby residences.

Providing conditions or design features that alter the microclimate around specific components can further mitigate odor. An abundance of sunlight and good ventilation helps keep livestock and poultry areas dry and relatively odor free. Southern exposure with adequate slope to provide drainage for runoff is a preferred condition. Keeping animal by-products aerated and at appropriate moisture and temperature levels slows the development of anaerobic conditions and reduces odor.

Mitigation of Odor

Odor-causing substances from animal by-products are frequently attracted to dust particles in the air. Collecting or limiting the transport of dust aids in reducing odor. Vegetation is very effective in trapping dust particles. For example, pine trees planted downwind trap odor-laden dust particles and can provide a visual barrier to the animal operation. In addition, vegetation, landform, and structures can channel wind to carry odors away from nearby residences.

Chemical additives for the control or reduction of odors may be added to the bedding in the house or during removal.

3.7. Catastrophic Animal Mortality Management

Refer to NRCS standards, or state guidance, regarding appropriate catastrophic animal mortality handling methods.

Plan for Catastrophic Animal Mortality Management

The following narrative describes how catastrophic animal mortality will be managed in a manner that protects surface and ground water quality. All national, state and local laws, regulations and guidelines that protect soil, water, air, plants, animals and human health must be followed.

Burial

Dig a large pit or trench as located on the plan map. Insert dead animals daily, and cover them with one to two feet of soil.

The pit should be graded so that it does not impound water. Runoff from the pit should flow into a grass filter. Note: When adequate drainage is not provided, these pits or trenches fill with water and carcasses may actually float to the surface. The water in the pit is very bacteria-laden and may be a hazard to both animal and human health. There is also high potential for ground water contamination from both bacteria and nutrients.

Burial trenches and pits must have at least a 2.0 foot separation between the bottom of the trench and groundwater.

The pits should also have a berm to divert rainfall and runoff from the site. The soil should be able to infiltrate any rainfall that falls directly into the pit.

Vectors (dogs, rats, snakes, flies, etc.) are potential problems in a burial situation. If a producer chooses this method for disposal of dead animals, the carcasses must be covered daily as to reduce vectors in and around the trench or pit.

When a burial pit is full, the site should be capped with a mound of soil so that precipitation is not allowed to collect in the closed pit. Also, the area should be grassed as to prevent erosion. The burial area should be monitored so that these conditions remain after settling of decomposing carcasses and capping material.

Important! In the event of catastrophic animal mortality, contact the following authority before beginning carcass disposal:

State Veterinarian and Director
Boyd H. Parr, DVM
803-788-2260

3.8. Chemical Handling

If checked, the indicated measures will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

	This is not a regulatory-agency permitted facility. This section does not apply.

	Measure
X	All chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations. Pesticides and associated refuse are disposed of in accordance with the FIFRA label.
	Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.
	Chemical storage areas are covered to prevent chemical contact with rain or snow.
	Emergency procedures and equipment are in place to contain and clean up chemical spills.
	Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.
	All chemicals are custom applied and no chemicals are stored at the operation. Equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.

Section 4. Land Treatment

All litter will be exported by a licensed manure broker.

Section 5. Soil and Risk Assessment Analyses

All litter will be exported by a licensed manure broker.

Section 6. Nutrient Management

6.1. Manure Nutrient Analyses

Manure Source	Dry Matter (%)	Total N	NH_4-N	Total P_2O_5	Total K_2O	Avail. P_2O_5	Avail. K_2O	Units	Analysis Source and Date
Broiler House		36.0		35.0	30.0	35.0	30.0	Lb/Ton	AWMFH Estimate
SS1		36.0		35.0	30.0	35.0	30.0	Lb/Ton	AWMFH Estimate
SS2		36.0		35.0	30.0	35.0	30.0	Lb/Ton	AWMFH Estimate

(1) Entered analysis may be the average of several individual analyses.
(2) South Carolina assumes that 100% of manure phosphorus and 100% of manure potassium is crop available. First-year per-acre nitrogen availability for individual manure applications is given in the Planned Nutrient Applications table. For more information about nitrogen availability in South Carolina, see Chapter 3b, "Poultry Manure Production and Nutrient Content," Clemson University (http://www.clemson.edu/extension/livestock/camm/camm_files/poultry/pch3b_00.pdf).

6.2. Manure Inventory Annual Summary

Manure Source	Plan Period	On Hand at Start of Period	Total Generated	Total Imported	Total Transferred In	Total Applied	Total Exported	Total Transferred Out	On Hand at End of Period	Units
Broiler House	May '16 - Apr '17	210	1,449	0	0	0	0	1,541	118	Ton
SS1	May '16 - Apr '17	0	0	0	991	0	991	0	0	Ton
SS2	May '16 - Apr '17	0	0	0	550	0	550	0	0	Ton
All Sources	**May '16 - Apr '17**	**210**	**1,449**	**0**	**1,541**	**0**	**1,541**	**1,541**	**118**	**Ton**
Broiler House	May '17 - Apr '18	118	1,449	0	0	0	0	1,567	0	Ton
SS1	May '17 - Apr '18	0	0	0	745	0	745	0	0	Ton
SS2	May '17 - Apr '18	0	0	0	822	0	822	0	0	Ton
All Sources	**May '17 - Apr '18**	**118**	**1,449**	**0**	**1,567**	**0**	**1,567**	**1,567**	**0**	**Ton**
Broiler House	May '18 - Apr '19	0	1,449	0	0	0	0	1,331	118	Ton
SS1	May '18 - Apr '19	0	0	0	846	0	846	0	0	Ton
SS2	May '18 - Apr '19	0	0	0	485	0	485	0	0	Ton
All Sources	**May '18 - Apr '19**	**0**	**1,449**	**0**	**1,331**	**0**	**1,331**	**1,331**	**118**	**Ton**
Broiler House	May '19 - Apr '20	118	1,449	0	0	0	0	1,452	115	Ton
SS1	May '19 - Apr '20	0	0	0	764	0	764	0	0	Ton
SS2	May '19 - Apr '20	0	0	0	688	0	688	0	0	Ton
All Sources	**May '19 - Apr '20**	**118**	**1,449**	**0**	**1,452**	**0**	**1,452**	**1,452**	**115**	**Ton**

6.3. Plan Nutrient Balance

	N (Lbs)	P_2O_5 (Lbs)	K_2O (Lbs)
Total Manure Nutrients on Hand at Start of Plan[1]	7,560	7,350	6,300
Total Manure Nutrients Collected[2]	208,656	202,860	173,880
Total Manure Nutrients Imported[3]	0	0	0
Total Manure Nutrients Exported[4]	212,076	206,185	176,730
Total Manure Nutrients Gained/Lost in Transfer[5]	0	0	0
Total Manure Nutrients on Hand at End of Plan[6]	4,140	4,025	3,450
Total Manure Nutrients Applied[7]	0	0	0
Available Manure Nutrients Applied (Utilized by plan's crops)[8]	0	0	0
Available Manure Nutrients Applied (Not utilized by plan's crops)[9]	0	0	0
Commercial Fertilizer Nutrients Applied (Utilized by plan's crops)[10]	0	0	0
Commercial Fertilizer Nutrients Applied (Not utilized by plan's crops)[11]	0	0	0
Available Nutrients Applied (Manure and fertilizer; utilized by plan's crops)[12]	0	0	0
Nutrient Utilization Potential[13]	0	0	0
Nutrient Balance of Spreadable Acres[14*]	0	0	0
Average Nutrient Balance per Spreadable Acre per Year[15*]	0	0	0

1. Values indicate total manure nutrients present in storage(s) at the beginning of the plan.
2. Values indicate total manure nutrients collected on the farm.
3. Values indicate total manure nutrients imported onto the farm.
4. Values indicate total manure nutrients exported from the farm to an external operation.
5. Values indicate changes in total manure nutrients due to internal transfers between storage units with differing analyses.
6. Values indicate total manure nutrients present in storage(s) at the end of plan.
7. Values indicate total nutrients present in land-applied manure. Losses due to rate, timing and method of application are not included in these values.
8. Values indicate available manure nutrients applied on the farm based on rate, time and method of application. These values are based on the total manure nutrients applied (row 7) after accounting for state-specific nutrient losses due to rate, time and method of application. Nutrients which will not be utilized by crops in the plan (row 9) are excluded from these values.
9. Values indicate manure nutrients applied that will be utilized by crops outside the plan.
10. Values indicate nutrients applied as commercial fertilizers and nitrates contained in irrigation water. Nutrients that will not be utilized by crops in the plan (row 11) are excluded from these values.
11. Values indicate nutrients applied as commercial fertilizer which will be utilized by crops outside the plan.
12. Values are the sum of available manure nutrients applied (row 8) and commercial fertilizer nutrients applied (row 10).
13. Values indicate nutrient utilization potential of crops grown. For N the value generally is based on crop N recommendation for non-legume crops and crop N uptake or other state-imposed limit for N application rates for legumes. P_2O_5 and K_2O values generally are based on fertilizer recommendations or crop removal (whichever is greatest).
14. Values indicate available nutrients applied (row 12) minus crop nutrient utilization potential (row 13). Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
15. Values indicate average per acre nutrient balance. Values are calculated by dividing nutrient balance of spreadable acres (row 14) by the number of spreadable acres in plan and by the length of the plan in years. Negative values indicate additional average per acre nutrient utilization potential and positive values indicate average per acre over-application.

* Non-trivial, positive values for N indicate that the plan was not properly developed. Negative values for N indicate additional nutrient utilization potential which may or may not be intentional. For example, plans that include legume crops often will not utilize the full N utilization potential for legume crops if manure can be applied to non-legume crops that require N for optimum yield. Positive values for P_2O_5 and/or K_2O do not necessarily indicate that the plan was not developed properly. For example, producers may be allowed to apply N-based application rates of manure to fields with low soil test P values or fields with a low potential P-loss risk based on the risk assessment tool used by the state. Negative values for P_2O_5 and K_2O indicate that planned applications to some fields are less than crop removal rates.

Section 7. Feed Management

Feed management activities may be used to reduce the nutrient content of manure, which may result in less land being required to effectively utilize the manure. Feed management activities may be dealt with as a planning consideration and not as a requirement that addresses specific criteria; however, AFO owners/operators are encouraged to incorporate feed management as part of their nutrient management strategy. Specific information and recommendations should be obtained from Land Grant Universities, industry, the Agricultural Research Service, or professional societies such as the Federation of Animal Science Societies (FASS) or American Registry of Professional Animal Scientists (ARPAS), or other technically qualified entities. Specific feed management activities to address nutrient reduction in manure may include phase feeding, amino acid supplemented low crude protein diets, and the use of low phytin phosphorus grain and enzymes, such as phytase or other additives. Feed management can be an effective approach to addressing excess nutrient production and should be encouraged; however, it is also recognized that feed management may not be a viable or acceptable alternative for all AFOs. A professional animal nutritionist should be consulted before making any recommendations associated with feed ration adjustment.

Any significant changes that would result in nutrient changes in the manure will require a re-evaluation of this plan (CNMP). Feed rations are formulated and provided by Amick Farms.

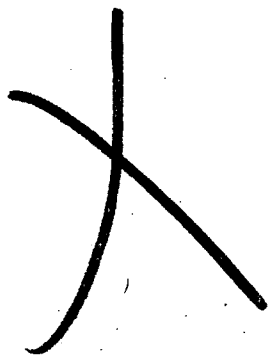
Section 8. Other Utilization Options

All litter will be exported by L & M Litter Brokers (19,463-AG). A manure broker agreement is included on the following page.

RECEIVED
NOV 08 2016
Stormwater/Sediment...
Agricultural Permitting Div...

Section 8. Other Utilization Options

All litter will be exported by L & S Litter Brokers (19,463-AG). A manure broker agreement is included on the following page.



CONTRACT FOR PURCHASE OF WASTE

L&M Litter Brokers, Broker Permit No. 19,463-AG will purchase agricultural waste (manure, litter, compost) from Hook & Coggins Facility, Producer, located in Jasper County and identified by SC DHEC Operating Permit No. _____.

Purchase price will be based upon services rendered and/or agreed to price at date of clean out.

Broker will provide necessary equipment and services to remove waste from the facility. Upon removing the waste, Broker accepts all waste utilization responsibilities ensuring the waste is handled, transported, stored, and/or applied in a manner consistent with SC DHEC Regulations 61-43, thus, relieving the Producer of this responsibility.

The Producer will furnish, to the Broker, waste analysis information obtained no earlier than two (2) months before the date of clean out. Waste will be analyzed for:

A. Nutrients (on a dry weigh basis)
- Total Kjeldahl Nitrogen
- Total Inorganic Nitrogen
- Total Ammonia Nitrogen and Total Nitrate Nitrogen
- Potassium as K_2O
- Calcium Carbonate equivalency (if waste is alkaline stabilized)

B. Constituents (on a dry weight basis)
- Arsenic
- Copper
- Zinc

Calcium Carbonate equivalency and Arsenic analysis are not required if producer gives documentation to show these additives are not present in the waste.

Other Provisions:

Agreed to by:

	6-1-16		
Broker	Date	Producer	Date

DHEC_002184

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Section 10. Manure Storage Facility Design and Specifications

10.1 Monthly Volumes Entering Storage System

Month-Year	Manure Source	Amount	Manure Destination
Jun 2016	Broiler House	95 Tons	SS1
Sep 2016	Broiler House	251 Tons	SS1
Dec 2016	Broiler House	95 Tons	SS1
Mar 2017	Broiler House	550 Tons	SS2
Mar 2017	Broiler House	550 Tons	SS1
May 2017	Broiler House	95 Tons	SS2
Aug 2017	Broiler House	170 Tons	SS2
Nov 2017	Broiler House	95 Tons	SS2
Jan 2018	Broiler House	283 Tons	SS1
Apr 2018	Broiler House	462 Tons	SS2
Apr 2018	Broiler House	462 Tons	SS1
Jun 2018	Broiler House	95 Tons	SS1
Sep 2018	Broiler House	170 Tons	SS1
Dec 2018	Broiler House	95 Tons	SS1
Mar 2019	Broiler House	485 Tons	SS2
Mar 2019	Broiler House	486 Tons	SS1
May 2019	Broiler House	95 Tons	SS1
Aug 2019	Broiler House	170 Tons	SS1
Nov 2019	Broiler House	95 Tons	SS1
Jan 2020	Broiler House	283 Tons	SS2
Mar 2020	Broiler House	404 Tons	SS1
Mar 2020	Broiler House	405 Tons	SS2

(1) 95 ton events are crustings
(2) Events occurring in March and April are full cleanouts
(3) All other events are windrow cleanouts.

Two 40' X 200' stacking sheds are planned to hold litter until it can be exported.

10.2 Composter Design

Composting facility volume requirements are included on the following page.

Compost Production and Composter Size

Owner: Heath Coggins Designed by: Date: 6/8/2016
County: Checked by: Date:

Compost Production

Number of Birds per Flock	237,600	
Mortality Rate	[redacted]	%
Life of Flock	[redacted]	weeks
Number of Flocks per Year	4.5	
Weight of birds at Maturity	9.0	pounds
Weight of birds lost per day	1,797.0	pounds

Composting Recipe

	Volume Ratio	Weight Ratio	Total	
Dead Birds	1.0	1.0	241	tons
Litter	1.5	1.2	289	tons
Straw	1.0	0.1	24	tons
Total Mix before Composting			553	tons
Weight Reduction during Composting			25	%
Compost Produced per Year			415	tons

Composter Size

Composter Volume per lb of Mortality per Day 2.5 cubic feet

Stage 1

Total Stage 1 Volume Needed	4,492.4	cubic feet	
Individual Bin Height	[redacted]	feet	
Individual Bin Length	10	feet	
Individual Bin Width (front)	10	feet	
Individual Bin Volume	500	cubic feet	900 sq.ft
Number of Stage 1 Bins Needed	9	includes [redacted]	bins for extra storage

Stage 2

Width of Secondary Bin 10 feet

Building Size

Total Length of Shed-Type Building	90	feet
Total Width of Shed-Type Building	22	feet
Area of Building	1980	square feet

Haybale Composter

Height of Piles	[redacted]	feet
Area Needed for Stage 1	0	square feet
Area Needed for Stage 2	0	square feet
Total Area Needed	0	square feet

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Section 11. References

11.1. Publications

Phosphorus Risk Assessment

"The Phosphorus Index, South Carolina," AWMFH, SC Supplement 2, July 2004
http://efotg.sc.egov.usda.gov/references/public/SC/NEH_651_AWMFH_SC_Sup_2_July_2004.pdf

Practice Standards

South Carolina 590 Standard (Nutrient Management)
http://efotg.sc.egov.usda.gov/references/public/SC/SC_590_Nutrient_Management_December2012.pdf

11.2. Software and Data Sources

MMP Version	MMP 0.3.6.0
MMP Plan File	Heath coggins MMP.mmp 5/19/2016 8:05:56 AM
MMP Initialization File for South Carolina	11/17/2015
MMP Soils File for South Carolina	1/11/2016
Phosphorus Assessment Tool	2013.09.06
NRCS Conservation Plan(s)	n/a
RUSLE2 Library	n/a
RUSLE2 Database	n/a

Section 12. SC Regulation 61-43: Animal Facility Management Plan Cross-Reference

Animal Facility Management Plan Submission Requirements	Location In CNMP
A. Preliminary Site Approval	5
B. Include following Information for Permitting	
1. A completed application form.	4
2. An Animal Facility Management Plan	
a. Facility name,	Cover Page
address,	Cover Page
telephone number,	Cover Page
county, and	Cover Page
National Pollutant Discharge Elimination System Permit or other permit number (if applicable);	
b. Facility location description and	Cover Page
the zoning restrictions in this area;	
c. Applicant's name,	Cover Page
address, and	Cover Page
telephone number (if different from above);	Cover Page
d. Operator's name;	Cover Page
e. Facility capacity;	
i. Number and type of animals;	4
ii. Pounds of normal production animal live weight at any one time;	4
iii. Amount of animal manure and other animal by-products generated per year (gallons for liquid animal manure and pounds for dry animal manure);	4
iv. Amount in tons of any scraped or separated solid animal manure and other animal by-products generated per year (if applicable);	NA
v. Description of animal manure and other animal by-products storage and storage capacity of lagoon, treatment system or manure storage pond (if applicable); and	NA
vi. Description of animal manure and other animal by-products treatment (if any).	NA
f. Concentration of constituents in liquid animal manure including but not limited to the constituents given below:	
i. Nutrients.	NA

Animal Facility Management Plan Submission Requirements	Location in CNMP
(a) Nitrate (only needed for aerobic systems).	
(b) Ammonium-Nitrogen	
(c) Total Kjeldahl Nitrogen (TKN)	
(d) Organic-Nitrogen (TKN - Ammonium-Nitrogen)	
(e) P 2 O 5	
(f) K 2 O (potash)	
ii. Constituents.	NA
(a) Arsenic	
(b) Copper	
(c) Zinc	
iii. Name, address, SC lab certification number, and telephone number of the laboratory conducting the analyses	NA
For new animal facilities, manure analysis information does not have to be submitted in review of the application. Analysis of the actual animal manure generated shall be submitted to the Department twelve months after a new animal facility starts operation or prior to the first application of animal manure to a manure utilization area, whichever occurs first.	
g. Concentration of constituents in solid animal manure including but not limited to the following:	
i. Nutrients (on a dry weight basis).	27
(a) Total Kjeldahl Nitrogen (mg/kg).	
(b) Total inorganic nitrogen (mg/kg).	
(c) Total ammonia nitrogen (mg/kg) and Total nitrate , nitrogen (mg/kg).	
(d) P 2 O 5 (mg/kg).	
(e) K 2 O (mg/kg).	
(f) Calcium Carbonate equivalency (if animal manure is alkaline stabilized).	
ii. Constituents (on a dry weight basis).	NA
(a) Arsenic (mg/kg).	
(b) Copper (mg/kg).	
(c) Zinc (mg/kg).	
iii. Name, address, SC lab certification number, and telephone number of the laboratory conducting the analyses.	NA
For new animal facilities, manure analysis information does not have to be submitted in review of the application. Analysis of the actual animal manure generated shall be submitted to the Department twelve months after a new animal facility starts operation or prior to the first application of animal manure to a manure utilization area, whichever occurs first.	
h. Animal manure and other animal by-products handling and application information shall be included as follows:	

Animal Facility Management Plan Submission Requirements	Location in CNMP
i. A crop management plan which includes the time of year of the animal manure application and how it relates to crop type, crop planting, and harvesting schedule (if applicable) for all manure utilization areas;	N/A
ii. Name, address, and telephone number of the producer(s) that will land apply the animal manure and other animal by-products if different from the permittee;	NA
iii. Type of equipment used to transport and/or spread the animal manure and other animal by-products (if applicable); and	N/A
iv. For spray application systems, plans and specifications with supporting details and design calculations for the spray application system.	NA
i. Facility and manure utilization area information shall be included (as appropriate):	N/A
ii. Name and address of landowner and location of manure utilization area(s);	Cover Page
iii. List previous calendar years that animal manure was applied and application amounts, where available;	NA
iv. Facility and manure utilization area location(s) on maps drawn to approximate scale including:	NA
(a) Topography (7.5' or equivalent) and drainage characteristics (including ditches);	8
(b) Adjacent land usage (within 1/4 mile of property line minimum) and location of inhabited dwellings and public places showing property lines and tax map number;	8
(c) All known water supply wells on applicant's property and within 200 feet of the facility's property line or within 200 feet of any manure utilization areas;	8
(d) Adjacent surface water bodies (including ephemeral and intermittent streams);	8
(e) Animal manure utilization area boundaries and buffer zones;	N/A
(f) Right-of-Ways (Utilities, roads, etc.);	8
(g) Soil types as given by soil tests or soils maps, a description of soil types, and boring locations (if applicable);	8
(h) Recorded Plats, Surveys, or other acceptable maps that include property boundaries; and	8
(i) Information showing the 100-year floodplain (as determined by FEMA).	8

Animal Facility Management Plan Submission Requirements	Location in CNMP
v. For manure utilization areas not owned by the permit applicant, a signed agreement between the permit applicant and the landowner acceptable to the Department detailing the liability for the land application. The agreement shall include, at a minimum, the following:	
(a) Producer's name, farm name and county in which the farm is located;	Cover Page
(b) Landowner's name, address, phone number;	Cover Page
(c) Location (map with road names and county identified) of the land to receive manure application;	N/A
(d) Field acreage, acreage less setbacks, and crops grown;	N/A
(e) Name of manure hauler;	4
(f) Name of manure applier;	NA
(g) A statement that land is not included in any other management plans and manure or compost from another farm is not being applied on this land; and	N/A
(h) A signed statement, which informs the landowner that he is responsible for spreading and utilizing this manure in accordance with the requirements of the Department and Regulation 61-43.	2
vi. For other manure utilization areas that are included in multiple Animal Facility Management Plans, identify the names of all facilities that include this manure utilization area in their plan.	N/A
3. Groundwater monitoring well details and proposed groundwater monitoring program (if applicable).	N/A
4. The Animal Facility Management Plan shall contain an odor abatement plan for the animal facility, lagoon, treatment system, manure storage pond, and manure utilization areas. For more specific details, see Section 200.150 (Odor Control Requirements).	20
5. A Vector Abatement Plan shall be included for the animal facility, lagoon, treatment system or manure storage pond, and manure utilization areas. For more specific details see Section 200.160 (Vector Control Requirements).	20
6. Dead Animal Disposal Plan. The plan shall include written details for handling and disposal of dead animals. Plans should detail method of disposal, any construction specifications necessary, and management practices. See Section 200.130 (Dead Animal Disposal Requirements) for specific requirements on dead animal disposal.	12 & 23
7. Soil Monitoring Plan. A soil-monitoring plan shall be developed for all manure utilization areas. See Section 200.100 (Manure Utilization Area Requirements) for more detailed information.	N/A

Animal Facility Management Plan Submission Requirements	Location in CNMP
8. Plans and specifications for all other manure treatment or storage structures, such as holding tanks or manure storage sheds.	Separate Document
9. All "A Notice of Intent to Build or Expand an Animal Facility" forms as provided by the Department and a tax map (or equivalent) to scale showing all neighboring property owners and identifying which property has inhabited dwellings. See Section 200.60 (Public Notice Requirements) for more detailed information.	40
10. An Emergency Plan. The emergency plan should at a minimum contain a list of entities or agencies the producer should contact in the event of lagoon, treatment system, or manure storage pond breach, major animal mortality, fire, flood, or other similar type problem. For facilities in the coastal areas of the state, the emergency plan should address actions to be taken by a producer when advance warning is given on any extreme weather condition.	16
11. Adjoining property owners written agreement for reduction of setbacks (if applicable).	41

Section 13. Attachments

Attachment A – Notices of Intent

D H E C
PROMOTE PROTECT PROSPER

AGRICULTURE FACILITY
PUBLIC NOTICE OF INTENT TO APPLY FOR AN AGRICULTURAL PERMIT

RECEIVED
JUN 21 2016
Stormwater, Construction & Agricultural Permitting Division

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Permit Applicant: Heath Coggins

County: Laurens

Location: Near intersection off Lisbon Rd. and Hwy 72

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Type of manure treatment/storage proposed: Export all litter following cleanout

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Please Print (except for signature)

Name: Eugene Stewart JR 511-00-00-006

Address: 106 Meadow Wood Ct. Easley, SC 29640

Phone #: 864-420-9573

Signature: E. Roy Stewart

Date: 6-19-16

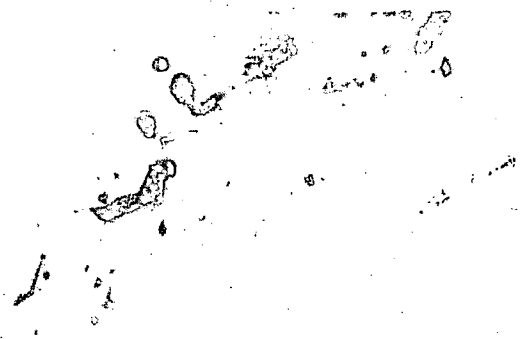
Refusal to sign this form will not prohibit the Department from making a permit decision on the proposed facility. If you refuse to sign this form, the permit applicant will complete this form and write "refused to sign" in the signature block. If you have objections to the construction of this facility, you may address specific objections/issues, in writing to: SCDHEC, Industrial, Agricultural & Stormwater Permitting Division, 2600 Bull Street, Columbia, SC 29201. The Department will consider all written comments in making the permit decision. All persons submitting comments will be notified of the permit decision made by the Department. Please note that the Department is not involved in property values, zoning or land use issues as these are local issues, which must be addressed by local governments. Please contact your local county or municipal officials for any concerns on these issues.

INSTRUCTIONS
AGRICULTURAL FACILITY PUBLIC NOTICE OF INTENT TO APPLY FOR AN AGRICULTURAL PERMIT

Purpose: All adjoining property owners and property owners within 1,320 feet of the proposed agricultural facility must complete this form, unless a public notice is published in a local newspaper of general circulation. Then these forms must be submitted with the agricultural facility application package. These forms serve to inform the adjacent property owners of a proposed agricultural facility and instruct them on the procedure for submitting comments.

Item-by-Item Instructions:
Permit Applicant: Owner of the proposed agricultural facility site (filled in by the proposed facility owner).
County: County in which the proposed agricultural facility is located (filled in by the proposed facility owner).
Location: Provide the address of the proposed facility (filled in by the proposed facility owner).
Number of Animal Barns Proposed: provide the actual number of barns or animal houses proposed to be constructed on this site (filled in by the proposed facility owner).
Animal type: The type of animal that is to be produced at the proposed agricultural facility. (swine, poultry, dairy, cattle, horses, etc....to be filled in by the proposed facility owner).
Type of Manure Storage/Treatment Proposed: describe the manure treatment or storage proposed, if any (such as land application, anaerobic lagoon, composting, manure storage shed, etc...). (filled in by the proposed facility owner).
Name: Name of the property owner whose property is adjacent to or within 1,000 feet of the property line of the proposed agricultural facility.
Address: Address of the property owner whose property is adjacent to or within 1,320 feet of the proposed agricultural facility.
Phone #: Phone number of the property owner whose property is adjacent to or within 1,320 feet of the proposed agricultural facility.
Signature: Signature of the property owner whose property is adjacent to or within 1,320 feet of the proposed agricultural facility. If the property owner refuses to sign, the applicant should write "refused to sign" in the signature block.
Date: Provide that date on which the property owner whose property is adjacent to or within 1,320 feet of the proposed agricultural facility signed this form.

DHEC Processing Procedures:
Two copies of this form are submitted to DHEC in the standard submittal package for agricultural permits. After permitting, DHEC files the original in the main project file, located in DHEC's Central office in Columbia.. DHEC sends one copy to the appropriate EQC District office.



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Phone #:

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RECEIVED

NOV 07 2016

Stormwater, Construction & Agricultural Permitting Division

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

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Please Print (except for signature)

Name: Ernest Patterson 510-00-00-007

Address: 462 Milam Rd. Clinton, ~~NC~~ SC

Phone #:

Signature: Refused to sign

Date:

Refusal to sign this form will not prohibit the Department from making a permit decision on the proposed facility. If you refuse to sign this form, the permit applicant will complete this form and write "refused to sign" in the signature block. If you have objections to the construction of this facility, you may address specific objections/issues, in writing to: SCDHEC, Industrial, Agricultural & Stormwater Permitting Division, 2600 Bull Street, Columbia, SC 29201. The Department will consider all written comments in making the permit decision. All persons submitting comments will be notified of the permit decision made by the Department. Please note that the Department is not involved in property values, zoning or land use issues as these are local issues, which must be addressed by local governments. Please contact your local county or municipal officials for any concerns on these issues.

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Please Print (except for signature)

Name: Dunlap Entrpr LLC. 540-00-00-019

Address: P.O. Box 3129 Greenwood, SC 29648

Phone #:

Signature: Refused to sign

Date:

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Please Print (except for signature)

Name: City of Austin 510-00-00-003

Address: 1180 Peachtree St. NE STE 1810 Atlanta, GA 30309

Phone #:

Signature: Refused to sign

Date:

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English Customer Service USPS Mobile Register / Sign In

USPS.COM

USPS Tracking®

Customer Service ›
Have questions? We're here to help.

Get Easy Tracking Updates ›
Sign up for My USPS.

Tracking Number: 9590940216926053656751

Product & Tracking Information

Postal Product:
First-Class Mail®

Features:
USPS Tracking®

See tracking for related item: 70151730000218910598

May 28, 2016, 1:02 pm	Delivered, In/At Mailbox	LAURENS, SC 29360
May 27, 2016, 11:57 pm	Departed USPS Facility	GREENVILLE, SC 29607
May 27, 2016, 12:46 pm	Arrived at USPS Facility	GREENVILLE, SC 29607
May 26, 2016, 10:39 pm	Arrived at USPS Facility	NORTH METRO, GA 30026
May 24, 2016, 5:01 pm	Return Receipt Associated	

Available Actions

RECEIVED
NOV 07 2016
Stormwater, Construction & Agricultural Permitting Division

Track Another Package

Tracking (or receipt) number

Track It

Manage Incoming Packages

Track all your packages from a dashboard.
No tracking numbers necessary.

Sign up for My USPS ›

USPS.COM

USPS Tracking®

Customer Service ›
Have questions? We're here to help.

Get Easy Tracking Updates ›
Sign up for My USPS.

Tracking Number: 9590940216926053656751

Product & Tracking Information

Postal Product:
First-Class Mail®

Features:
USPS Tracking®

See tracking for related item: 70151730000218910589

May 28, 2016 , 1:02 pm	Delivered, In/At Mailbox	LAURENS, SC 29360
May 27, 2016 , 11:57 pm	Departed USPS Facility	GREENVILLE, SC 29607
May 27, 2016 , 12:48 pm	Arrived at USPS Facility	GREENVILLE, SC 29607
May 26, 2016 , 10:39 pm	Arrived at USPS Facility	NORTH METRO, GA 30026
May 24, 2016 , 5:01 pm	Return Receipt Associated	

Available Actions

Track Another Package

Tracking (or receipt) number

Track It

Manage Incoming Packages

Track all your packages from a dashboard.
No tracking numbers necessary.

Sign up for My USPS ›

UNITED STATES POSTAL SERVICE

Date: June 2, 2016

William Sawyer:

The following is in response to your June 2, 2016 request for delivery information on your Certified Mail™ item number 70151730000218910599. The delivery record shows that this item was delivered on May 26, 2016 at 10:39 am in ATLANTA, GA 30309. The scanned image of the recipient information is provided below.

Signature of Recipient :

Address of Recipient :

1180

Thank you for selecting the Postal Service for your mailing needs.

If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely,
United States Postal Service

RECEIVED
NOV 07 2016
Stormwater, Construction & Agricultural Permitting Division

UNITED STATES POSTAL SERVICE

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SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Eugene Stewart Jr.
106 Meadow Wood Ct
Easley SC 29640

9590 9402 1692 6053 6567 68

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0629

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

E Rodes Stewart | 7-6-1376

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Ernest Patterson
462 Miam Rd
Clinton SC 29325

9590 9403 0584 5183 7627 08

2. Article Number (Transfer from service label)

7015 1730 0002 1890 7360

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Charlie Lawson ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Eugene Stewart Jr.
106 Meadow Wood Ct
Easley SC 29640

9590 9402 1892 6053 6567 68

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0629

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X E Ross Stewart ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

E Ross Stewart 7-16-16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

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- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Ernest Patterson
462 Milam Rd
Clinton SC 29325

9590 9403 0594 5183 7627 08

2. Article Number (Transfer from service label)

7015 1730 0002 1890 7360

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Charles Lawson ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

RECEIVED

NOV 07 2016

Stormwater, Construction & Agricultural Permitting Division

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Eugene Stewart Jr.
106 Meadow Wood Ct
Easley SC 29640

9590 9402 1692 6053 6567 68

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0629

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

E Rees Stewart 7-6-16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Ernest Patterson
462 Milam Rd
Clinton SC 29325

9590 9403 0594 5183 7627 06

2. Article Number (Transfer from service label)

7015 1730 0002 1890 7360

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

1481

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Eugene Stewart Jr.
106 Meadow Wood Ct
Easley SC 29640

9590 9402 1692 6053 6567 68

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0629

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X E Ross Stewart ☐ Agent ☐ Addressee

B. Received by (Printed Name) E Ross Stewart C. Date of Delivery 11-6-16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Ernest Patterson
462 Milam Rd
Clinton SC 29325

9590 9403 0594 5183 7627 06

2. Article Number (Transfer from service label)

7015 1730 0002 1890 7360

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Charles Lawson ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

RECEIVED
NOV 07 2016
Stormwater, Construction & Agricultural Permitting Division

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®

ATLANTA GA 30303

OFFICIAL USE

Certified Mail Fee $3.30	0260 03
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	
☐ Return Receipt (electronic) $	
☐ Certified Mail Restricted Delivery $	
☐ Adult Signature Required $	
☐ Adult Signature Restricted Delivery $	
Postage $0.47	
Total Postage and Fees $6.47	Postmark Here 05/24/2016

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1730 0002 1891 0599

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®

CLEVELAND OH 44101

OFFICIAL USE

Certified Mail Fee $3.30	0260 03
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	
☐ Return Receipt (electronic) $	
☐ Certified Mail Restricted Delivery $	
☐ Adult Signature Required $	
☐ Adult Signature Restricted Delivery $	
Postage $0.47	
Total Postage and Fees $6.47	Postmark Here 05/24/2016

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1730 0002 1891 0636

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®

EASLEY SC 29640

OFFICIAL USE

Certified Mail Fee $3.30	0260 03
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	
☐ Return Receipt (electronic) $	
☐ Certified Mail Restricted Delivery $	
☐ Adult Signature Required $	
☐ Adult Signature Restricted Delivery $	
Postage $0.47	
Total Postage and Fees $6.47	Postmark Here 05/24/2016

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1730 0002 1891 0629

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®

GREENWOOD SC 29646

OFFICIAL USE

Certified Mail Fee $3.30	0260 03
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	
☐ Return Receipt (electronic) $	
☐ Certified Mail Restricted Delivery $	
☐ Adult Signature Required $	
☐ Adult Signature Restricted Delivery $	
Postage $0.47	
Total Postage and Fees $6.47	Postmark Here 05/24/2016

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1730 0002 1891 0643

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dunlap Enterprises Sales
PO Box 3129
Greenwood SC 29648

9590 9403 0133 5077 4149 90

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0643

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Kelly Wicker ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery
Corey Westmoreland 5/25/16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

RECEIVED
NOV 07 2016
Stormwater, Construction & Agricultural Permitting Division

DHEC_002213

1483

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com

ATLANTA GA OFFICIAL USE

Certified Mail Fee	$3.30
Extra Services & Fees (check box, add fee as appropriate)	
Return Receipt (hardcopy)	$
Return Receipt (electronic)	$
Certified Mail Restricted Delivery	$
Adult Signature Required	$
Adult Signature Restricted Delivery	$
Postage	$0.47
Total Postage and Fees	$6.47

0250 03
Postmark Here
05/24/2016

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1730 0002 1891 0599

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com

CLEMSON SC OFFICIAL USE

Certified Mail Fee	$3.30
Extra Services & Fees (check box, add fee as appropriate)	
Return Receipt (hardcopy)	$
Return Receipt (electronic)	$
Certified Mail Restricted Delivery	$
Adult Signature Required	$
Adult Signature Restricted Delivery	$
Postage	$0.47
Total Postage and Fees	$6.47

0269 03
Postmark Here
05/24/2016

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1730 0002 1891 0636

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com

EASLEY SC OFFICIAL USE

Certified Mail Fee	$3.30
Extra Services & Fees (check box, add fee as appropriate)	
Return Receipt (hardcopy)	$
Return Receipt (electronic)	$
Certified Mail Restricted Delivery	$
Adult Signature Required	$
Adult Signature Restricted Delivery	$
Postage	$0.47
Total Postage and Fees	$6.47

0250 12
Postmark Here
05/24/2016

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1730 0002 1891 0629

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com

GREENWOOD SC OFFICIAL USE

Certified Mail Fee	$3.30
Extra Services & Fees (check box, add fee as appropriate)	
Return Receipt (hardcopy)	$
Return Receipt (electronic)	$
Certified Mail Restricted Delivery	$
Adult Signature Required	$
Adult Signature Restricted Delivery	$
Postage	$0.47
Total Postage and Fees	$6.47

0262 08
Postmark Here
05/24/2016

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1730 0002 1891 0643

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dunlap Enterprises LLC
PO Box 129
Greenwood SC 29648

9590 9403 0133 5077 4149 90

2. Article Number (Transfer from service label)

7015 1730 0002 1891 0643

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Kelly Westmoreland ☐ Agent ☐ Addressee

B. Received by (Printed Name) Kelly Westmoreland
C. Date of Delivery 5/25/16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

D H E C
PROMOTE PROTECT PROSPER

AGRICULTURE FACILITY
PUBLIC NOTICE OF INTENT TO APPLY FOR AN AGRICULTURAL PERMIT

An agricultural animal growing operation is proposed by the following:

Permit Applicant: Heath Coggins

County: Dawens

Location: Near intersection of Lisbon Rd and Hwy 72

Number of Animal Barns Proposed: 6 Animal type: Broilers

Type of manure treatment/storage proposed: Export upon clean out /

This Public Notice of Intent to Construct is to inform you, as an adjoining property owner or a property owner within 1,320 feet of the proposed facility, that an agricultural facility is proposed to be built near your property. The signing of this form only indicates that you are aware of the proposed farm construction. The signing of this form **DOES NOT** waive any legal rights that a property owner has concerning the Department's permitting process in this matter. Nor does signing of this form constitute making a comment to the Department. Also, if the Department's permit decision is appealed, the signing of this form does not mean that the property owner cannot participate in the appeal process. Participation in the appeal process will depend upon your legal standing in the matter.

Please Print (except for signature)

Name: David K Coggins

Address: 1094 Lisbon Rd - Mountville SC 29370

Phone #:

Signature: David K Coggins

Date:

Refusal to sign this form will not prohibit the Department from making a permit decision on the proposed facility. If you refuse to sign this form, the permit applicant will complete this form and write "refused to sign" in the signature block. If you have objections to the construction of this facility, you may address specific objections/ issues, in writing to: SCDHEC, Industrial, Agricultural & Stormwater Permitting Division, 2600 Bull Street, Columbia, SC 29201. The Department will consider all written comments in making the permit decision. All persons submitting comments will be notified of the permit decision made by the Department. Please note that the Department is not involved in property values, zoning or land use issues as these are local issues, which must be addressed by local governments. Please contact your local county or municipal officials for any concerns on these issues.

RECEIVED

NOV 07 2016

Stormwater, Construction &

White and Yellow Copies: Submitted to DHEC; Pink Copy: Farmer; Orange Copy: Adjoining Property Owner

DHEC 3679 (08/2002) SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C

PROMOTE PROTECT PROSPER

AGRICULTURE FACILITY
PUBLIC NOTICE OF INTENT TO APPLY FOR AN AGRICULTURAL PERMIT

An agricultural animal growing operation is proposed by the following:

Permit Applicant: Heath Coggins

County: Dillon

Location: Near intersection of Lisbon Rd. and Hwy 72

Number of Animal Barns Proposed: 6 Animal type: Broilers

Type of manure treatment/storage proposed: Export upon clean out

This Public Notice of Intent to Construct is to inform you, as an adjoining property owner or a property owner within 1,320 feet of the proposed facility, that an agricultural facility is proposed to be built near your property. The signing of this form only indicates that you are aware of the proposed farm construction. The signing of this form **DOES NOT** waive any legal rights that a property owner has concerning the Department's permitting process in this matter. Nor does signing of this form constitute making a comment to the Department. Also, if the Department's permit decision is appealed, the signing of this form does not mean that the property owner cannot participate in the appeal process. Participation in the appeal process will depend upon your legal standing in the matter.

Please Print (except for signature)

Name: David R Coggins

Address: 1094 Lisbon Rd - Mountville SC 29370

Phone #:

Signature: David R Coggins

Date:

Refusal to sign this form will not prohibit the Department from making a permit decision on the proposed facility. If you refuse to sign this form, the permit applicant will complete this form and write "refused to sign" in the signature block. If you have objections to the construction of this facility, you may address specific objections/ issues, in writing to: SCDHEC, Industrial, Agricultural & Stormwater Permitting Division, 2600 Bull Street, Columbia, SC 29201. The Department will consider all written comments in making the permit decision. All persons submitting comments will be notified of the permit decision made by the Department. Please note that the Department is not involved in property values, zoning or land use issues as these are local issues, which must be addressed by local governments. Please contact your local county or municipal officials for any concerns on these issues.

White and Yellow Copies: Submitted to DHEC; Pink Copy: Farmer; Orange Copy: Adjoining Property Owner

DHEC 3579 (08/2002) SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C
PROMOTE PROTECT PROSPER

AGRICULTURE FACILITY
PUBLIC NOTICE OF INTENT TO APPLY FOR AN AGRICULTURAL PERMIT

An agricultural animal growing operation is proposed by the following:

Permit Applicant: Heath B. Coggins

County: Oconee

Location: Near intersection of Dixon Rd & Hwy 72

Number of Animal Barns Proposed: 6 Animal type: Broilers

Type of manure treatment/storage proposed: Export upon removal

This Public Notice of Intent to Construct is to inform you, as an adjoining property owner or a property owner within 1,320 feet of the proposed facility, that an agricultural facility is proposed to be built near your property. The signing of this form only indicates that you are aware of the proposed farm construction. The signing of this form **DOES NOT** waive any legal rights that a property owner has concerning the Department's permitting process in this matter. Nor does signing of this form constitute making a comment to the Department. Also, if the Department's permit decision is appealed, the signing of this form does not mean that the property owner cannot participate in the appeal process. Participation in the appeal process will depend upon your legal standing in the matter.

Please Print (except for signature)

Name: James Young

Address: 107 Battleaux Place
Blythewood 29016

Phone #: 803 471-1363

Signature: James M. Young II

Date: 6/11/16

Refusal to sign this form will not prohibit the Department from making a permit decision on the proposed facility. If you refuse to sign this form, the permit applicant will complete this form and write "refused to sign" in the signature block. If you have objections to the construction of this facility, you may address specific objections/ issues, in writing to: SCDHEC, Industrial, Agricultural & Stormwater Permitting Division, 2600 Bull Street, Columbia, SC 29201. The Department will consider all written comments in making the permit decision. All persons submitting comments will be notified of the permit decision made by the Department. Please note that the Department is not involved in property values, zoning or land use issues as these are local issues, which must be addressed by local governments. Please contact your local county or municipal officials for any concerns on these issues.

RECEIVED

NOV 07 2016

Stormwater, Construction & Agricultural Permitting Division

White and Yellow Copies: Submitted to DHEC; Pink Copy: Farmer; Orange Copy: Adjoining Property Owner

DHEC 3579 (08/2002) SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C
PROMOTE PROTECT PROSPER

AGRICULTURE FACILITY
PUBLIC NOTICE OF INTENT TO APPLY FOR AN AGRICULTURAL PERMIT

An agricultural animal growing operation is proposed by the following:

Permit Applicant: Heath B. Coggins

County: Laurens

Location: Near intersection of Dixon Rd & Hwy 72

Number of Animal Barns Proposed: 6 Animal type: Broilers

Type of manure treatment/storage proposed: Export upon removal

This Public Notice of Intent to Construct is to inform you, as an adjoining property owner or a property owner within 1,320 feet of the proposed facility, that an agricultural facility is proposed to be built near your property. The signing of this form only indicates that you are aware of the proposed farm construction. The signing of this form **DOES NOT** waive any legal rights that a property owner has concerning the Department's permitting process in this matter. Nor does signing of this form constitute making a comment to the Department. Also, if the Department's permit decision is appealed, the signing of this form does not mean that the property owner cannot participate in the appeal process. Participation in the appeal process will depend upon your legal standing in the matter.

Please Print (except for signature)

Name: James Young

Address: 107 Battleaux Place
Blythewood 29016

Phone #: 803 479-1363

Signature: James M. Young II

Date: 6/1/16

Refusal to sign this form will not prohibit the Department from making a permit decision on the proposed facility. If you refuse to sign this form, the permit applicant will complete this form and write "refused to sign" in the signature block. If you have objections to the construction of this facility, you may address specific objections/issues, in writing to: SCDHEC, Industrial, Agricultural & Stormwater Permitting Division, 2600 Bull Street, Columbia, SC 29201. The Department will consider all written comments in making the permit decision. All persons submitting comments will be notified of the permit decision made by the Department. Please note that the Department is not involved in property values, zoning or land use issues as these are local issues, which must be addressed by local governments. Please contact your local county or municipal officials for any concerns on these issues.

White and Yellow Copies: Submitted to DHEC; Pink Copy: Farmer; Orange Copy: Adjoining Property Owner

Attachment B – Setback Waivers

Date: 6-1-016

I, David R Coggins as owner of tax map tract number _____ waive the

- [x] 200 ft. property line setback
- [x] 400 ft. property line setback
- [ ] 1,000 ft. permanent resident setback

for the construction of an agricultural facility owned by Heath B Coggins (producer) located at Lisbon RD

Property Owner Signature: David R Coggins

(printed name)

NOTE:

1. Sometimes more than one setback waiver option will need to be checked.
2. 200 ft. property line setback is for facilities with less than 500,000 lbs. of animal weight.
3. 400 ft. property line setback is for facilities with more than 500,000 lbs. of animal weight.

Date: 5/31/16

I, James M. Young J., as owner of tax map tract number 511-00-00-009 waive the

☐ 200 ft. property line setback

■ 400 ft. property line setback

■ 1,000 ft. permanent resident setback

for the construction of an agricultural facility owned by Heath Coggins (producer) located at Lisbon Road east of Hwy 72.

Property Owner Signature: James M. Young J.

James M. Young Jr.
(printed name)

NOTE:
1. Sometimes more than one setback waiver option will need to be checked.
2. 200 ft. property line setback is for facilities with less than 500,000 lbs. of animal weight.
3. 400 ft. property line setback is for facilities with more than 500,000 lbs. of animal weight.