**Minimum Design Criteria (MDC) Team  
3/23/2015  
Triangle J COG, Durham**

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| --- | --- | --- | --- | --- | --- | --- |
| **Attendees** | | | | | |  |
| ***Team Members*** | |  | | |  | ***Others*** |  |
| Eban Bean  Bradley Bennett  Jonathan Bivens Tim Clinkscales Tracy Davis Boyd Devane Hunter Freeman Mike Gallant Joe Hinton  Marc Houle Ron Horvath Bill Hunt  Linda Lewis |  | | Brian Lipscomb Annette Lucas  Mike MacIntyre Todd Miller  Cameron Moore Tom Murray Robert Patterson Derek Pielech Peter Raabe Larry Ragland  JD Solomon Virginia Spillman Toby Vinson Rob Weintraub |  | | Julie Ventaloro, NC DEMLR  Craig Deal, NC DOT Daryl Norris, City of Wilson Michael Leggett, NC DWR David Evans, NC Board of Examiners for  Engineers and Surveyors David Tuttle, NC Board of Examiners for  Engineers and Surveyors Georgette Scott, NC DEMLR Heather Jarman – Business Alliance for a  Sound Economy Ben Brown – City of Raleigh Lauren Witherspoon – City of Raleigh |

**Fast-track permitting  
  
Updates since last meeting**  
Annette – MDC are out for public notice after getting approval from WQC of EMC. This is not part of the process for rulemaking, but we do want to gather as many comments as possible. MDCs can be used right now as “alternative” designs. Also, met with Rep. Millis to ask for more time to develop fast-track permitting process and to allow MDC team to review some of our other rules for the readoption process. We asked for four additional months.  
  
Bradley – Last week, we sent out an email based on concerns we had from last meeting with regard to submitting plans. We understand the concerns everyone had about that process. Today, we want to move forward with what this group has already talked about. Maybe we can keep the issues and concerns we have with liability, other issues in mind as we move forward. Our big concern was making sure we had long-term ability to have information, know what was happening on project site. But let’s move forward with the process we had started in February. If anybody has any questions or concerns, we can do that upfront now before we get into the items on the agenda.

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**Plan Submission**  
Virginia – Part of our permit is to either do yearly inspections or to require different owners to do those. We rely on those plans to be able to do our inspections. HOA’s often don’t get copies of those plans. If that is one of the requirements of our delegated program, how will that work if we don’t have those plans? How do we go back and communicate to the HOA? We understand we won’t be able to review the plans, and that’s decided. But the recordkeeping, how do we comply with our permit going forward?  
Annette – We and local governments would get the as-builts at completion.  
Mike G – In erosion control permit, is there a stipulation that you have to keep a set of plans onsite during construction?  
Bradley – There is.  
Mike G – Wouldn’t that be a requirement we could incorporate? Or submit your plans at construction?  
Tim – Do those have to be onsite for the sewer guys? No, they do not. So they should not have to be onsite for the others.  
Robert P – We require them to be onsite for all their plans. We do inspections during construction when they’re installing stormwater pipe; if they’re doing bioretention, before they put in the underdrains. We’ve caught a lot of issues during construction that would’ve been really bad. They would have had to totally redo it because it wouldn’t work. We’ll still do those construction inspections and have those plans.  
Virginia – A lot of engineers aren’t being paid to do construction oversight. Even with as-built, they have all that liability stuff in there. How do you send somebody to the Board when they tell you they’re not being paid to do the construction oversight? We’ve seen as-builts with information that completely match the original plans, so you know they’re not really as-builts.   
Tim – At the same time, you have to certify the system. If you certify it without doing something, that’s on you. If someone certifies a set of as-builts that are fraudulent or incorrect, that’s when they go to the Board.  
Virginia – But if you don’t have information to say that your plan doesn’t comply with MDC, how do you send them to the Board?  
Tim – We do that with sewer all the time. Process at back end will be more stringent now. Certification is weak.  
Mike G – We’re not required to even certify low-density stuff.  
Tim – Before turn to HOA, you do have to have walk through with DENR. They sign off on it.  
Mike G – That’s when it transfers from developer to HOA.  
Tim – They don’t take the liability from day one. Developer hits the road -- that’s a different story. There will still have to be some sort of certification before they’ll take on the liability. We do it for water, sewer. They’re not paid to go out and inspect everything, but it’s kind of a given.  
Daryl Norris – If you have design engineer that draws plans, says it’s MDC and contractor builds it, and it’s a different engineer that builds it, and you go out and it doesn’t meet MDC. What happens then? The new engineer won’t seal it.  
Tim – First engineer is liable.  
Rob W – Question is who gets the set of plans and when? Process is different, review is different. Trying to imitate a different process to make it simpler. If you have two engineers who don’t agree, the state doesn’t have to decide that – it’s on the owner.  
Mike G – These things are handled as civil matters all the time in sewer.  
Tim – Liability will be determined at court level.  
Virginia – You’ll have all these BMPs that aren’t working right. Yes, we’ve seen lawsuits. But issues not getting resolved in timely manner. HOAs don’t know what to do.  
Tim – So if we had plans, engineer will then take full liability? Won’t fix issue on timing.   
Mike G – In sewer, if you’re going to lay gravity sewer, and you get permit for 1,000 feet, and you lay 1100 feet, you don’t need to apply for new permit. Sewer program has strong, established MDC. This is going to be new. Key is to make sure we have strong MDC document. If there has to be more information given in a supplement or on application than we do now – I don’t have a lot of heartburn with that, things you can easily review.  
Georgette Scott – Comes down to when certification is given to the state. Who’s making sure MDCs are properly built? I’ve seen lots of lawsuits, engineers saying we designed it correctly – they didn’t build it correctly. Engineers are not paid to go out during process to make sure. If you get rid of plans, make sure engineers are out there during construction process, giving certification in between and at end, before subdivision, commercial project gets out of control. When do we get that certification? Who’s ultimately responsible? We all know permittee disappears. State does get involved in these litigations every day. If you don’t want to give us plans, how do we make sure it meets MDC?  
Mike G – With sewer, you certify sewer – ties to CO. Stormwater -- there’s not a relationship between building inspector and stormwater.   
Tim – I think that’s why there should be partial certification.  
Georgette – If you want to protect yourself as engineer, if developer wants to protect themselves, get this to HOA – we need to certify.  
Rob W – I don’t recall hearing about all these lawsuits and problems. At the end of the day, they’re not right, or do we need to have a photo as part of certification? If you can identify problems, that can be part of certification process without undermining the whole process of MDC. Take rethinking to get people to take pictures during the process. I’ve had really good set of plans, contractor goes out there and says I don’t want to cut down this pine tree because roots will mess up basin -- move it 5 feet. I’m looking forward that we can certify this at the end instead of holding up the process.  
Georgette – That’s the answer: engineer and developer being part of the process. That’s not happened in the past.  
Mike G – Are most lawsuits residential subdivisions?  
Georgette – Lawsuits come in all makes and models. Famous one where HOA involved their engineer and the engineer that designed it. DENR had to be involved heavily in that. At end of day, got them to agree and permit was given to HOA. Difficult process.  
Rob W – Would it have been different if had gone through MDC process?  
Georgette – A lot of lawsuits were because certifications weren’t done or were done after the fact. Things weren’t in the right place. Engineer was not paid to do that extra step. That’s real important.  
Virginia -- My concern is only for single-family residential subdivisions. It could take twenty years. I may never get an as-built on that. Commercial -- same owner is going to own it. Even if the HOA has as-builts, won’t know about problems until it’s too late.  
Joe H – We are being employed these days to be third party on these things, look at permeability of side slopes, filter material, everything. These are people who found some that have problems after the fact. First couple months, they work. In 6 months, permeability goes down 50%. There was no oversight done on those projects. If you look at plans, they match the plans.  
Annette – We agree on big points. Need better construction oversight, better acceptance of as-builts. I think what I’m hearing is a lot of people are thinking plans upfront -- they in and of themselves don’t produce a successful project. In existing .1008(j) rule, says systems must be certified that system was constructed in accordance with specs and the rule.  
Mike G – Aren’t as-builts required for sewer?  
Tim – Yes. You’re right about construction oversight, but DENR can’t set that. Engineers, market determines that. If engineers aren’t willing to do it, that’s their problem.  
Annette – We’re regulating engineer, but permittee is the person we go after.  
Rob W – I’m not sure if it will resolve the problem, when you apply and send in for the MDC, can you add a statement that owner sign it that they understand that engineer will certify this? If that will give everyone a comfort level – I don’t think it will change anything.  
Tim – It’s not the client’s fault; it’s the engineer’s fault for being cheap.  
Mike G – I’ve had people tell me they don’t want to pay me to go out there.   
Annette – Let’s see if there’s a way to compel owners to pay for construction oversight.  
Tim – You can put as much pressure as you want, but it’s the private sector society that will make that happen. You’re just going to have to go do it and not getting paid for it sometimes. Liability’s not worth it to not do it.   
Rob W – It has nothing to do with MDC.

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**[Draft flow chart for discussion]**  
Annette – Reviewed changes made to flow chart after last week’s discussion.   
Box 1 and Box 4 discuss today; table Box 5 to allow more time to digest today’s discussion and emails; Box 6 gets to as-builts, so I’d like to talk about that today also.

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**Box 1**  
Annette - I excerpted language from 15A NCAC 2T .1104 which is application submittal for residuals management; sewer did have language about engineering design documents, but this also had information about soils reports and site plans. I wanted to put this out as starting point. Consider adding to our requirements if you’re a PE and you have a bad record, perhaps you might not be eligible for fast track. Also, some sort of training program our designers could go through.

**Site Plans – Designation of a “qualified professional”**David Tuttle – licensing for engineers and surveyors; tells you what you have to do; also has a disciplinary side – we’ve got all that covered in our rules. Title 21 chapter 56 is administrative code.  
Annette – Letter dated Dec 1, 2005 – what is that?  
David Tuttle – There’s times when the Board has to look at what engineers have done on their drawings and say how much of this has to be done by a PLS? Anything that’s locating something on the surface on the earth, measuring anything. Certification of invert elevations, etc would have to be done by PLS. Some engineers want to go shoot it themselves, but that’s something that falls under land surveying. On our website, we have statute, Board rules in Administrative Code, and policies. One of policies is engineering surveys – during design of project, engineer can do some surveying to get basic information for design, but can’t be relied on by others. Farther along in the process, there will have to be a PLS.  
Annette – There’s a policy on your website?  
David Tuttle – Yes. North Carolina Board of Examiners for Engineers and Surveyors website. We encourage your questions about any situation.  
Rob W – Sometimes landscape architects – if you have a surveyor, could you not have a landscape architect on the other hand that an engineer and surveyor would provide? If looking at wet pond, a soil scientist might know better how it’s going to work.  
David Tuttle – What it comes down to is overlap of practice issues sometimes. You’ve got to defer to that licensing board to interpret their statute. We have agreements with some boards that if there’s a complaint, we initially investigate but then refer it to that licensing board with our opinion, to architecture board for example for them to carry it forward. Some things under landscape architect statute, that in conjunction with land planning activities -- you can do these things.  
Tim – Obviously landscaping board will say they can do it? What will engineering board say about it? Their curriculum and test does not represent designing stormwater.   
David Tuttle – If a surveyor designs the subdivision, they can design the stormwater system up to a certain point. Ultimately, it’s public protection. From legislative standpoint, as long as the individual is competent to do what they’re doing, you’re not going to have a lot of turf battles. Just because someone passed the surveyor test doesn’t mean they’re competent. What it says is you can practice in that area if you’re competent to do so.  
Daryl Norris – As-built process, a surveyor would be required to survey what is on the ground. Then engineer also required to certify that with this survey, this meets the MDC. It would end up with two signatures.  
Tim - Parts of these MDCs where surveyors can do both. That’s the problem.  
Annette – Would it be more appropriate if we reference the policy memo than the letter dated Dec 1, 2005?  
David Tuttle – Best thing is to come back with what you recommend, then let us take it to the Board, and let them say yes. That’s typically what we’ve done in the past with DENR. Board will either take a resolution or more informal yes.  
Todd – We need to be careful about referencing things like that.  
David Tuttle – We tend to keep the references at higher level. Better than getting too specific.  
Annette – So maybe we can omit that note?  
Bradley – We understand. We’ll go to a higher level for the reference.  
Tim – Are we trying to say for stormwater boundaries, we need to have surveyor involved? If there’s no corners being set, why does a surveyor need to get involved? That would be engineering surveyor all day long.  
Mike G – Like a drainage area.   
Tim – Stormwater boundary itself -- you can have a difference between a site plan – when you do a boundary for your system --  
Mike G – If I have a site that splits in two directions, I show a drainage area map, but I don’t delineate --  
Georgette Scott – Are you talking about a project boundary?  
Tim – Yes.  
Mike G – If it’s not the property boundary --  
Tim – Only thing surveyor is needed for is as-built survey at the end. Topo and all that stuff -- that’s a different deal.  
David Tuttle – If the easement and other boundaries that are critical for the placement of some of these features, whether it be monumented or not, those would need to have been surveyed in at some point by a PLS. If it’s something that’s going to make a difference about where these things are located, need to be done by a PLS.   
Tim – But if it’s proposed stuff, surveyor – I’m with you – we don’t want to get in rabbit hole that surveyor needs to look at it at the beginning. Proposed easement – surveyor won’t have anything to do with width of it.  
Mike G – And that might change it. Easement around swale might change if move location of swale.  
Todd – Where are we picking up elevations of devices in that section?  
Annette – I changed “site plans” to “as built plans.” SCMs do need to be in easements. I heard easements do have to be done by surveyor. Scaled map of SCMs with topographic intervals, location of wells, site property boundaries.  
David Tuttle – New easements vs existing easements – different policies for those handled on our website.  
Annette – [reading from policy on website] Staking of an easement must be done by licensed professional land surveyor …. Tim – You seem like you have the most opinions about this. What would you like to say?  
Tim – For as-builts, a sealed survey of the stormwater SCM easements. Has to seal as-built drawing with contours, location of outfall structures -- Part of our discussion today is about who can actually certify for a fast-track permit?  
David Tuttle – Normally fast track has been a process only available to PEs.  
Tim – There are landscape architects that are sealing stormwater ponds. Engineer board is letting it happen.  
David Tuttle – We can say it is in the practice of engineering – doesn’t mean it excludes it from being done by landscape architecture. We can say it’s bad work and pass it to their board because they have the authority over that license.   
Annette - What a “qualified professional” is?  
Robert P – This group can’t determine who is a qualified professional. We need to formally ask PE Board, then the landscaping board.  
Daryl Norris – Rule passed that formed this committee tasked this committee with determining who is a qualified professional.  
Annette – I agree with Daryl. Our DENR attorney has told us we can decide this for purposes of applying for fast-track.  
Bradley – Ultimately, these are rules – EMC can decide this. We can take information forward. We will still fall into the process, like Robert says, it’s a little different from sewer that says PEs have to do designs. I think we can go on the process of looking at what statute says, figure out what we think is appropriate, but we probably should get feedback from boards.  
Mike G – If we only say engineers can design these for fast track, landscape architects will --  
Tim – My suggestion is that we say engineer is only one who can submit for fast-track permitting.  
Annette – We have to have soils, surveys – do we want to say all this is required?  
Mike G – I think that’s implicit.  
Todd – Civil engineer should be one that is responsible for as-built drawings. Need one entity for submitting complete as-builts.  
Virginia – Certification requires as-built. It is an engineering certification. PE must get that information from land surveyor, or if it’s his responsibility -- If he doesn’t, it goes against –   
Tim – Does yours allow landscape architect?  
Virginia – No, North Carolina professional engineer.  
Mike G – I’m okay with that.  
Joe H – I’m concerned with us saying one group can and another can’t. Can they sue this group?  
Tim – You can put my name on the top of the list. They can come to me.  
Daryl Norris – EMC is one who would pass the rules.  
Joe H – What if landscape architect was entity, but PE signed off. Is that acceptable?   
David Tuttle – Yes, as long as he’s practicing legally.  
Rob W – We have software package Storm E-Z. If someone went through training course – if LA goes through course and uses this software, and told they can’t submit an MDC package, is that going to undermine the educational opportunities of NC State, the value of the package?   
Robert P – State courses don’t certify you to be a licensed designer.  
Mike G – Without the license, you can’t have the liability.  
Daryl Norris – Authority granted by session law to this group -- not only could this group say a qualified professional must be PE, could propose that MDC certification be obtained by PE.  
Annette – Group seemed to like what Virginia was reading from Greensboro’s ordinance. How about: “A fast-track permit application shall be prepared by a North Carolina licensed professional engineer.”  
Tim – What do we say for the bases that may not have a NC license?  
David Tuttle – Goes without saying that if you’re a professional engineer that you’re licensed.  
Georgette Scott – At bases, they have engineers on staff, but they bring in contractors that must be licensed in the state for which they’re doing the design.  
Annette – Should we say something about PE shall consult with LS?  
David Tuttle – I think they’ll object to that if you get into that too much.  
Mike G – If I reference an elevation without a survey, I’ve overstepped.  
Annette – Reference 89C?  
David Tuttle – Any time you bring in a professional, you bring in 89C. Would be complete, but I don’t know if you need all that language. Try to make it consistent with other rules.  
Mike G – Fast track allowed for low density and high density?  
Annette – Yes.  
Bradley – Caveat is that we’ll take this to our attorneys to verify that there’s nothing else that keeps us from limiting this to PEs.  
How about: “A fast-track permit application shall be prepared by a North Carolina licensed professional engineer.”  
Group agreed. And Todd wanted to emphasize that group feels very strongly about this issue.  
  
**Bad Actors**  
Annette – If we have engineer with bad track record of not complying with MDCs, why would we allow them to come back and do another fast track? Disqualify people?  
Mike G – I think disqualification process comes from Board. You have to have Board discipline them once or more to flag somebody.  
Annette – Professional engineers who have been disciplined by the Board --  
Mike G – It’s a big deal to turn somebody into the Board.  
Annette – Is “disciplined” the right term?  
David Tuttle – Any kind of disciplinary action? Or specific to stormwater? We don’t usually analyze to that level of detail. Individual vs firm.  
Tim – It could be very broad.   
Annette – We might also want to specify a timeframe.  
Mike G – If it’s a firm, and firm is caught --  
Tim – If they can seal a drawing, they should be able to submit for fast track?  
Georgette Scott – Do you have a list of things that you would discipline them for?  
David Evans – Typically, plans submitted for building permits, there will always be an issue reviewer can find. But if they see somebody over and over again, see public safety issues, egregious examples where it’s not their work, outside area of competence. We want work in question, communications between agency and licensee. You’re in best position to determine bad work. We would want a referral to the Board in those cases. About 50% of our cases results in disciplinary action. Higher than that if they’re coming from regulator since they have more evidence.  
David Tuttle – If you have repeated history of noncompliance, that seems a good indicator of whether they should qualify to apply for fast track. If you have it well documented – two failed projects from this engineer, they might not qualify.  
Georgette Scott – What do we need to present to Board and when?  
David Tuttle – Let’s say you turn in a bad stormwater project and Board disciplines them, you have validation from Board that your concerns were valid.  
Rob W – To address this issue, I don’t have a problem with leaving out all this. If they’re a professional engineer, that’s good enough. Contractors are often the problem. We’re not going to be able to address that problem.  
Tim – If you know someone who is blatantly doing fraud, that’s a pretty strong discipline.  
Annette – I’m hearing concern that Department decides what a good or bad project is. But if Board decides it’s bad work --  
David Tuttle – We’re dealing with really small percentage of engineers that are disciplined. If you have a history with that PE, maybe you need something in there to deal with that.  
Annette – There’s a lot of people who want to take that judgment away from the Division. So say you discipline someone because stormwater practice came out terribly -- do you take away their license?  
David Tuttle – We may require them to get additional education --  
David Evans – Discipline is public record, look on website.  
Bradley – If someone sends complaint to Board, what is time for process?  
David Tuttle – Months. If they go beyond settlement conference, hearing with Board, gets into year or more because of court systems.  
Georgette Scott – Can we suspend someone until Board issues a decision?  
Annette – An idea that keeps Division staff from having ultimate say so, if Division staff has issue with someone’s work, can we present that to the EMC?  
Rob W – One difference here that works in favor of not worrying about disciplinary action. If I submit something for fast track, might not be built for years. It’ll work its way out before anything is built.  
Annette – I disagree. We won’t know if it complies until we get the as-builts.  
Mike G – Years ago, I had to turn someone in to Board. Had to sign an affidavit. That’s not something you do lightly. If you come to me as engineer and say “I’m going to turn you in,” I’ll notice that. I would think if you were to call that engineer and say we’re seeing issues – it would get my attention.  
Todd – How many complaints do you get from government agencies?  
David Evans – Not many. Last year, one complaint from a state agency.  
Todd – Suggestions to give to agencies?  
David Evans – We try to do that. Agencies complain about getting bad work, but we’re not getting them.  
Bradley – Can we build in something to work with Board to do reviews time to time?  
David Evans – Board’s not going to get into that business. You’re in best position to determine if you’re getting bad plans, as-builts.  
Todd – If you have bad actor, nothing constrains agency from riding them during construction, and you can do enforcement.  
Mike G – But they don’t have any plans.  
Annette – Hopefully, we won’t report many people to Board. I’d be happy to tell EMC we reported so and so to Board, let them decide. I don’t want to accept more projects from this person. Person could still submit in regular review process. Fast track is a privilege to get it built without having it reviewed at all. If something’s bad enough that staff has to report it to Board --   
Tim – What happens if you’re wrong?  
Annette – EMC could be checks and balances.   
Tim – What if it’s unfounded?  
Annette – I think there would be photos showing flooding, clogging, etc.  
Georgette Scott – We don’t send something up unless it’s really bad. There’s proof that there’s really bad.  
Annette – I think EMC needs to know. This is their rules.  
Mike G – Burden of proof is really high.  
Annette – We’re trying to take as much judgment away from staff as possible. Staff has to be able to do their job. Has to be a little two-way trust here.  
Joe H – You don’t say what discipline was for. Disciplined for anything, you’re not allowed to do this.  
David Evans – If it’s a misdemeanor, has to be a crime involving moral turpitude.  
Annette – Only a few people have been talking here. Anyone else have ideas? Two suggestions: If you’re a PE, you can do fast track; second, could be a process involving EMC with bad as-builts.  
Ben Brown – Durham has a process for certification for fast-track. Fast track is a service, You have to do three in a row with no problems to get on their certified list. It’s difficult to administer, but they seem to have found some success from it.  
Annette – Let’s see where we are. Two options: 1) PE is all you need; 2) process with EMC where staff shows bad as-builts, suspend acceptance of applications.   
David Tuttle – Board probably wouldn’t be so specific to say they suspend person from doing fast track, specifically. Other people need protection from this person doing bad work.  
Michael Leggett – You probably couldn’t go to standpoint we’re going to restrict you from fast-track sewer?  
David Tuttle – Not going to say we couldn’t say that, but that’s very narrow. Maybe they should be restricted from doing other types of projects also.  
Joe H – If someone is constantly putting in bad stuff, won’t clients find that out? In my area, when certain names come up, eyebrows go up and people start backing away. Hesitant to say I won’t accept your plans anymore because I *think* you’re doing it bad.  
Mike G – ONWASA, Cape Fear River Authority has technical group that looks over plans; we don’t have anything like that in stormwater. Glaring issue. Big difference between sewer fast track and this one.  
Annette – Should there be some sort of program to kick out PEs that have been disciplined by NCBELS or where the EMC agrees with staff that an as-built does not comply with the MDC?  
Mike G – If you go to EMC, I don’t think they would want liability?   
Annette – How many don’t think there should be a kick-out program?  
Rob W – Robert – you get plans all the time. Do you ask question has engineer been disciplined? Or are you not worried about it because you get to review the plans?   
Georgette Scott – You could just step up the inspection program.  
Annette – Ultimately, these are EMC rules. We’ll talk to them, see what they think. We’ll come back next month with ideas for team to consider.

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**Fast-track Training**  
Annette – It’s been suggested that you can go to school, learn to design sewer systems, but stormwater MDC is different than that. No class is available for this. Idea’s been put out there to require folks who want to submit fast track to take class so they know what MDCs are, how to certify them. We often partner with NC State to go around the state and teach these classes. There could or could not be a test attached to it.  
Mike G – I don’t know if you can require someone to do that. If I got continuing education credit for it, I wouldn’t have a problem with it.  
Tim – I have a problem doing that. Four years of school is enough. Either way, fast track or regular track, you have to meet the MDC. We’re going to have an engineer submit to someone who’s not an engineer tell them --   
Mike G – No corollary with other fast-track programs.   
Rob W – You’d be saying someone who does MDCs needs to be more qualified. Shouldn’t be part of this process.  
Annette – Someone who submits a fast track better be able to follow MDC without any guidance.  
Tim – Unfair to someone out of state also.  
Mike G – Could it be online, a webinar?  
Annette – This idea went over like a lead balloon, like I thought it would.

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**Box 4: Reasonable Timeframe**  
Annette – I didn’t throw out any suggestions. Regional Offices?  
Michael Leggett – For sewer, goal is 30 days, but not in rule. Realistically, it’s closer to 14-21 days from when we receive it to when we issue permit.  
Mike G – With erosion, if you send it back, you’ve got 15 days.   
Tim – For sewer, Wilmington has one person that does whole region for sewer.   
Michael Leggett – People who issue permits also generally do inspections.  
Tim – For stormwater, we have Washington, Wilmington, and Raleigh.  
Michael Leggett – Sewer is in all regional offices.  
Bradley – We have post construction in all regional offices, but those outside of Washington, Wilmington and Raleigh usually come to central office.  
Tim – I think it should be 14-21 days. There are more resources in stormwater than sewer.  
Georgette – It really depends on your workload.  
Michael Leggett – For sewer, supplemental flow tracking form to verify downstream flow, along with application, limited information, certification that meets MDC.  
Mike G – Supplements at as-built?  
Annette – We haven’t decided that.  
Georgette Scott – 30 days is reasonable if we’re not reviewing anything. Depends a lot on workload.  
Annette – As it gets up and running, will be balancing review with inspecting as-builts.  
Tim – I think it would be less for this program since not submitting calcs.  
Georgette Scott – Say 30 days, but try for quicker time.   
Mike G – If you have this available, no one’s going to go through Express.  
Georgette Scott – We have a lot of people from out of state go through Express that want the meeting, help.  
Todd – Since there’s not much here to review, could there be some provision if inadequate documentation, you revoke?  
Georgette Scott – Needs to be something to say this isn’t adequate application.  
Mike G – So O&M agreements comes at end?  
Annette – Yes. Linda suggested issue fast track certification, then issue permit once as-builts submitted, inspected.  
Annette – Should we call this an “Authorization to Construct Permit”? Something to indicate it’s not the final permit.   
Rob W – If things come in, it’s just rejected, send it back.  
Mike G – How about if after 30 days, if it’s not approved, then it’s deemed permitted?  
Annette – I think that’s fair.  
Tim – I think first response needs to be before 30 days.  
Rob W – If we want to acknowledge that engineer’s getting all liability and owner’s getting liability --  
Georgette Scott – Why don’t you say 14-21 days is the goal, with no later than 30 days, at which time it is deemed permitted. Our goal is to get it out between 14-21 days.  
Annette – Business days vs calendar days?  
Georgette Scott – Has to be business days.  
Annette – How about: The goal is 10-15 business days for an authorization to construct permit. After 30 calendar days, if there is no response, then it is deemed permitted.  
Rob W – If you want people to use them, there has to be more incentive than it’s more like a normal erosion control permit.  
Tim – It might be 90 days here. Could take 30 days just to get a response.  
Robert P– If we keep modeling after fast track sewer, it’s 30 days. What’s the difference here?  
Georgette Scott – This is a placeholder. Once we have all the details, we can better make a determination of how long it will take.  
Annette - Can you live with this for now: The goal is 10-15 business days for an authorization to construct permit or a decision that the application is incomplete or ineligible. After 30 calendar days, if there is no response, then it is deemed permitted.  
Group agreed.  
Tim – I want to be sure the issue of shortening the review time will be discussed by this team again in the future. Are we pretty close to being set on what items will be required for the application?  
Annette – I think so.

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**Box 5 – Project completion**  
Annette – This is where the rubber really hits the road. Project completion is our trigger for when compliance has to be established. Tabling this for later.

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**Box 6 –Supporting Documentation  
Item 1**   
Annette – I cut and pasted language from regular permitting program to give us something to shoot at. How about: 1. Sealed, signed and dated calculations for the stormwater control measures.  
Rob W – To me, this says if engineer submits calculations, are you going to mail them back to them? If they have package ready, they want them off their desk, but is it okay if they send them in?  
Mike G – He’s talking about with the application.  
Bradley – In that case, people would send it twice.  
Annette – So calculations should be correlated with what is on as-builts.  
Robert P – They’d be as-built calcs.  
Linda – Require to provide BUA calculations?  
Annette – As-built project density.  
Linda – Might be under deed restrictions.   
How about: 1. Sealed, signed and dated calculations for the stormwater control measures and calculations of the as-built project density.  
Mike G – Just say calculations for as-built density. I don’t know that your survey of road and gutter is going to be accurate enough to give you that --  
Rob W – Project won’t be built out anyway. Moving target. Deed restrictions is the ultimate --  
Annette - How about: 1. Sealed, signed and dated calculations for the stormwater control measures and calculations of the project density.  
Group agreed.

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**Box 6, Item 2**  
Mike G. – There are some projects that work better on E size.  
Linda – Base requires plans on big sheets.  
Mike G – Readable scale is more important than anything. How about minimum of 24x36?  
Linda – I’ve accepted 11x17 on simple projects. CAMA sends me 11x17 plans.  
Annette – Who decides if something is “readable”?  
Robert P – I think 24x36 is reasonable minimum.  
Brian L – ANSI-D sheet size is 22x34.  
Annette -- Sealed, signed, and dated minimum 22” by 34” plans of the entire site at a legible scale (smaller sizes will be accepted on a case-by-case basis).

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**Item 2a**  
Annette – Take revision number out?  
Group agreed.

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**Added in new Item 2:** As-built certification form noting any changes to ownership.

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**Item 2b (now 3b)**  
Mike G - Permit number needed?  
Annette – How about: Location map with street names and SR numbers, legend and north arrow?  
Group agreed.

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**Item 2c (now 3c)**  
Rob W – Why do you need this? Could be huge.  
Tim – Project, but not property.  
Annette – How about: Dimensioned project boundary with bearings and distances?  
Group agreed.

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**Item 2d (now 3d)**  
Added “protected or vegetated” riparian buffers.

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**Item 2e (now 3e)**  
Annette – This is repetitive of 2d, so eliminate.

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**Item 2f (now 3f)**  
Rob W – When stormwater device is complete and asking for transfer, it wouldn’t necessarily have all structures built. In one phase, you could have three wet ponds and different places drain to them. You don’t calculate BUA by BMP – you do it by project. Is this asking for as-builts in every house, every driveway?  
Tim – No, just showing deed restrictions you’ve got. What’s meant by “drainage feature”?  
Annette – Drainage feature might be covered by stormwater collection?  
Mike G – Ditches.  
Tim – We don’t need to show that for as-built.  
Mike G – You’d show it on your topo.  
Tim – What does water quality have to do with collection systems, inverts and stuff?   
Annette – I think point is not to question engineer’s selection of pipe sizes, but to verify information about drainage area is correct.  
Mike G – Not doing profiles, right?  
Annette – No. So, Tim, are you saying you want to omit pipe elevations from the list?  
Tim – And slopes, diameters. . . .  
Robert – Pipe elevations coming in and out of BMP --  
Annette – This item pertains to site itself, not SCM specifically.  
Tim – I don’t think pre-existing drainage features need to be shown on as-built.  
Annette – Scratch this because contours will cover it?  
Tim – For pond, but not necessary for whole site.  
Annette – I scratched drainage features from this item.  
Tim – Don’t need to show slopes and diameters.  
Mike G – If pipe elevation a profile, or is that a culvert?  
Linda - I didn’t write that, so I don’t know what was intent.  
Annette – Do you need for your review?  
Georgette Scott – Wetlands folks use our drawings, pipes might be causing problems for the wetlands. If another engineer comes in to do a modification, they need to know information used to design it. Every engineer that comes to our place for copies, then they would have to go to another engineer to get that additional information.  
Tim – But I wouldn’t go out and do as-built of drain system.  
Linda – I disagree with that part of it. For us to determine if met MDC, we have to know stormwater runoff is being conveyed to that BMP. Without the inverts, how will we know that is draining this way and going to the BMP?  
Tim – We don’t need to go out and shoot inverts.  
Mike G – Does pipe elevation meet profile?  
Linda – I think it means invert.  
Mike G – Some boxes required to have 2-foot sump, so I’d get it for that.  
Rob W – In neighborhood with 10 houses, do you need invert in and out for every driveway pipe?   
Mike G – I’ve never done it for the driveway pipes.  
Tim – I don’t think it should be required for water quality.  
Georgette Scott – It’s also maintenance and operation. Down the road, they’ve got to know what they’ve got.  
Rob W – Site layout showing direction of all water coming towards the stormwater control device. That’s what you’re really asking for.  
Georgette Scott – If as HOA, if I didn’t have details on there, then I’d be digging up a lot of stuff to figure out how to fix that system, cost me a lot of money down the road. What do we need for end user to be able to operate and maintain this system?  
Tim – You wouldn’t assume plans were right; you’d go out and survey it anyway.   
Georgette Scott – Water quality is our concern, yes. People may not care about water quality, but they do care about water backing up in their yard. When we do an as-built, make the decision for the end user here.  
Virginia – If it’s public, you have to do it anyway. If it’s private, I would prefer if it was shown. The only way to not show it is to put more liability on you and ask for statement that says you’re responsible for storm sewer system. For our private stuff, we put it back on the engineer submitting the drawing, take liability.  
Mike G – We don’t have MDC for slope. You can lay them flat. As long as water gets to BMP eventually, it’s not – If you design it at 5% and they lay it at 4.5%, it’s not like sewer where you’re worried about hitting that. State doesn’t have a collection system design – they’ve never really looked at it.  
Virginia – If we had plans in proposed stage, we wouldn’t have to ask for all this information in the end.  
Tim – If you show it at the beginning, and it gets changed --  
Mike G – If say there’s no substantial deviation, inspected the system and it drains – It’s included in certification system, I thought.   
Georgette Scott – Ultimately, we give these plans to those people to operate. They need to know what’s there, what they need to do.  
Mike G – To Tim’s point, if there’s a problem, they’ll probably dig it up anyway, don’t assume as-built is right.  
Annette – I feel like you’re saying that fast track application that we’re certifying we’re doing it correctly, give you as-builts to prove it’s correct later on. This is proving that all BUA is going to a BMP. You’re proving that by showing us your stormwater collection system. They shouldn’t be turning over the system if they don’t know if it’s designed correctly anyway.  
Mike G - As long as all the rims are above the outlet --   
Rob W – If you have a subdivision with streets built to a plan, now you say we have to survey for as-built purposes all the pipes that are sitting in the street swales. If the road is built per plan --  
Mike G – I agree you don’t need to do driveway pipes.  
Annette – Hopefully, the driveway culvert isn’t perched.  
Tim – Difference between good engineering practice and what you are required to do for a permit.  
Georgette Scott – I don’t understand if you’re already doing it for local government --  
Mike G – Most of my projects I don’t have to do any of this because the counties don’t require it.  
Annette – We’re letting you apply for fast track with little information, but now I’m hearing you don’t want to provide that with as-builts either.  
Mike G – If we show you rim elevations and they’re higher than the outlet, connected by pipe network – you know it will eventually flow to pond. Will show that it’s not overtopping the inlet. Or flow direction arrows.  
Annette – So just show catch basins, show arrows --  
Todd – Seems like (f) is requiring that we show locations, not getting into specifications.  
Annette – How about: Site layout showing all built-upon areas, stormwater collection systems and SCMs at ultimate build-out. The information on stormwater collection systems shall include the locations of the inlets, outlets, pipes and swales, as well as the inverts and diameters of pipes, excluding driveway culverts.  
Mike G – How about “discrete” collection system? That’s different than driveway culvert. Low-density plan, you only put pipes and culverts for road crossings, driveways. Discrete collection system is pipes, everything flowing through that channel.  
Annette – We’re starting to get away from that term.  
Tim – There’s no reason to survey inverts again.   
Annette – So (f) maybe isn’t an as-built? It’s the design locations?  
Mike G – Use “as-built” or “record drawing”?  
David Tuttle – Basically, came out of architects years ago, they banned “as-built” from their language. It says it was actually built that way completely. Insurance carriers gun shy on that, kind of like warrantying it. “Record” is I’m giving you a record of how I’m aware of that it was built. More appropriate term may be “record drawings.” Could be as simple as during construction, required contractor red lines drawing any changes he made. Engineer incorporates those into their drawings. You all are wanting engineer to certify that they know of all critical elements.  
Tim – I’m more fine with that red line approach.  
David Tuttle – If you list “record drawings,” you’ll want to define what that means. You want something more than what contractor marked up. See “Certifying Record Drawings” article.  
Mike G – I use the term “record drawing.” There are some regulations that require you to label them as as-built.  
Annette – How about: Site layout showing all built-upon areas, stormwater collection systems and SCMs at ultimate built-out. The information on stormwater collection systems shall include the locations of the inlets, outlets, pipes and swales as well as the inverts and diameters of pipes, excluding driveway culverts. This sub-item may be the designed stormwater collection system rather than the as-built record drawings.  
Group agreed.

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**Item 2g (now 3g)**  
Tim – No reason to put spot elevations and finished floor elevations on there.  
Annette – How about: Existing contours and design contours or design spot elevations?  
Ben Brown – Site has to be graded a certain way to drain to the BMP. Is this going to be covered in 4? We have asked for as-builts on parking lots because it’s so close.   
Annette – You’re saying we can’t go with just design contours. We also need design contours.  
Tim – If you have a 50-acre commercial center, to do a 50-acre as-built topo, that is not reasonable to require.  
Rob W - Might be reasonable to require ridgeline in 50-acre parking lot.  
Tim – There’s case-by-case issues. That’s your job as engineer to do that stuff.   
Annette – If this item won’t cut it to make sure practices are built correctly per their drainage area, we need to propose other language. Sounds like local government folks are saying as-built contours.  
Ben Brown – As built or certify drainage area for BMPs?  
Mike G – To me, it’s easier to give you rim elevations for a pipe network and inverts. Doing as-built contour map of parking lot when there’s not a lot of elevation difference, won’t get much information from that. I usually show plan and profile, what it was designed at, actually was. But if you’re not required to do that. It’s implicit in certification that you’re certifying that it does drain to BMP.  
Annette – We could have design contours and as-built spot elevations.  
Rob W – Design contours and as-built spot elevations as determined by engineer.  
Mike G – If I give you a set of plans with profiles, do you review them?  
Linda – If I can’t find it on the plans, then I would go to the plan and profiles. Most things I usually need are on site plan.  
Annette – Issue is design vs as-built for contours and spot elevations. Is there a way to resolve this that would make most people in this room happy? How many people want to keep it that they’re giving us the design and not as-built for the elevations? One raised hand. How many think there needs to be as-built information?   
Ben Brown – At least a note certifying that. Need to see something.  
Georgette Scott – Our inspectors use those contours and spot elevations for complaints.   
Annette – Issue isn’t whether or not we get those – do we get design or as-built? Existing contours, design contours, or design elevations and note certifying site has been built in reasonable compliance with design. Would that satisfy everybody?  
Group agreed.

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**2h (now 3h)**Annette – Scratching pipe sizes and runoff calculations because they’re repetitive.  
Robert P – Is this just asking for existing site survey?  
Linda – You took this from language for design.  
Annette – Perhaps only thing of value here is for drainage easements?  
Linda – Put offsite drainage under drainage area boundary item.

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**2i (now 3i)**Drainage area boundaries, including off-site drainage.  
Move drainage easements to 3f.  
Group agreed.

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**2j (now 3j)**  
Move maintenance access routes, utility easements, public rights-of-way to 3f. Strike remaining items in 2j.  
Group agreed.

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**2k**   
Georgette Scott – What if you’re giving partial certification?  
Annette – Separate fast-track process for whatever phase is.  
Tim – If you’re going to permit whole subdivision, you’re going to certify parts of it. Pond can be built to size of drainage area for the phase you’ve done.  
Georgette Scott – Some of that might be connected to another phase. SCM might be shared between phases.  
Mike G – You would do a permit for two phases. Still have to protect the pond.  
Virginia – Can we, on 1, make sure that it’s understood that the calculations are as-built calculations?  
Annette – Yes, it says that.  
Annette – How about: A construction sequence that shows how the SCMs will be protected from sediment if a portion of their drainage area will be developed in the future.  
Linda – Does something need to be mentioned about phasing in another part?  
Annette – Let’s table this item until next month when we talk about phasing.

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**Item 3 (now Item 4)**  
Annette – Do we want to spec a plan sheet size for SCMs as well?  
Mike G – Cross section is a distorted scale anyway.  
Tim – Cross section doesn’t need to be scale. Going to have same size sheet as #2.  
Rob W – Still have issue with size. Filter strip that’s 30-feet long --  
David Tuttle – We say something like “size of maps shall be such that the details are legible on copy.”  
Mike G – Have we talked about number of copies and digital vs paper?  
Annette – We haven’t talked about this yet. Would like to talk about this internally first if you don’t mind.  
Annette - How about: Sealed, signed and dated full-sized plan details of each SCM in both plan view at a scale of 1” = 30’ or larger and cross-section. Other scales will be accepted if the scale is such that all details are legible on copy. The as-built plan details shall include: a,b,c,d.  
Group agreed.

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**Item 3a (now 4a)**  
Robert P – People get confused and don’t want to show actual as-built contours in spots. They’ll just show as-built bottom elevation and top of berm, but probably half time, have them go back in and add actual survey information.  
Linda – I think length/width ratios are too specific to wet ponds. It’s more of a calculation -- not something to show on detail.  
Annette – How about: dimensions, side slopes, and elevations with a benchmark for clean-out if appropriate.  
Group agreed.

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**Item 3b (now 4b)**  
Linda – Is this calling a bypass structure same thing as outlet structure? Outlet device is different from low-flow orifice?  
Annette – Won’t see as many bypass structures, but someone might still design it.  
Tim – What’s flow distribution device?  
Annette – Splitter box, riprap at base of inlet of biocell, energy dissipation. Swap out “energy” for “outlet.”  
Virginia – Do you need inlet device?  
Annette – Let’s put that in there.  
Group agreed.

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**Item 3c (now 4c)**Tim – This is in Item 1, I think.  
Annette – Basically a stage storage table.  
Tim – I don’t think that needs to go on plans.  
Group agreed to strike this item since it’s included in calculations.

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**Item 3d (now 4d)**  
Annette – It’s already built, so you wouldn’t be specifying it.  
Robert P – With bioretention, it would be nice to get certification from supplier that it met the standards.  
Mike G – Any required third party certifications for materials?  
Brian L - Spec sheets and shop drawings.  
Rob W – Why would you need shop drawing? Once it’s built and installed, you’re really just concerned about how water’s going to flow.  
Mike G – Some items, like a vortex separator, you might want shop drawings. Wouldn’t want it for outlet structure.  
Georgette Scott – Wouldn’t vortex be an alternate design, so you wouldn’t need that here?  
Virginia – Where do you put compaction on the dam and stuff like that?  
Annette – How about: Spec sheets for materials used in the SCM such as planting media, filter media, and aggregate?  
Group agreed.

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**Item 4 (now Item 5)**Mike G – Take out “wet pond.”  
Linda – Need specification about type of grass for stabilization.  
Annette - How about: Ground cover planted on side slopes of all SCMs. In addition, sealed, signed and dated planting plans for each stormwater wetland and bioretention cell . . . .  
Rob W – What good does it do you to know how many plants planted? What if half of them died?  
Boyd – Most ponds I see water’s coming through a point source, ditch or pipe, not through diffuse flow. Do you see many that are diffuse flow across the vegetated rim we require?  
Mike G – Only one I saw was near coast, when marsh grass grew on shelf so thick, water flows through that. It’s a very small pond; only one I’ve seen like that.  
Linda – Most inlets to ponds are not designed so that water flowing into the pond is diffuse flow across the shelf. As the water rises and falls, it comes into contact with the vegetation.   
Annette - How about: Ground cover planted on side slopes of all SCMs. In addition, sealed, signed and dated design planting plans for each stormwater wetland and bioretention cell . . . .and a note certifying that the plants were installed in reasonable compliance with the design. The planting plan shall include: a, b, c.  
Group agreed.

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**Item 5 (now Item 6)**Joe – Unless get surveyor to go out there, going to be hard to get elevations. Should be depth of SHWT. And unless a benchmark is there, not going to know the elevation.   
Rob W – Also, aren’t there times when borings don’t matter because put in a clay liner. This being after the fact, we don’t care about borings anymore. Certify that proper SHWT --  
Joe – Depends why you need to prove SHWT or not. Need a liner or not?  
Rob W – For as-built, we don’t care anymore. In some cases, we need to refer to SHWT, others not because we have a liner.  
Joe – What if liner malfunctions – supposed to hold water, but it doesn’t.  
Rob W – As of that date, that’s what we have. Still has O&M.  
Joe – So don’t need infiltration rates either? It’s already done.  
Robert P – To me, it’s another part of stormwater calculations.  
Annette – Move this to addendum to stormwater calculations?  
Group agreed.  
Joe – Also put in permeability tests for filter material?  
Annette – We got rid of infiltration rate requirement if use certain media.  
Joe – We find if test it 9 months later, it might not be working.  
Robert P – We have two new town-owned bioretention cells – they now look like wet ponds.  
Boyd – I’d consider adding statement that says for individual project the director may determine that some of these elements may not be needed. This will give us flexibility, so we can avoid having to require something that doesn’t make sense just because it’s in our rules.

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**Added Item:** In situ test of soils infiltration rates in infiltration systems and media of bio cells and sand filters.

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**Action Items**Annette –Send Team additional homework in 2 weeks.  
Team – Review chapters and additional homework as assigned.

**Next Meeting – April 27, 2015 – 9:30 to 3:00, Fast-Track Process continued: Box 6 and Box 7 – As-built drawings**