



Upper White River Watershed Alliance, Inc.
February 21, 2008

The meeting was called to order at 2:06 PM Thursday, February 21, 2008. Those present were as follows: Mr. Kenton Ward, Hamilton County Surveyor; Mr. Robert Thompson, Hamilton County Surveyor's Office; Ms. Jill Hoffman, Empower Results; Mr. Trent Pell, McCog; Ron Lauster, Marion County Soil & Water; Heather Williams, AMEC; Mr. George Peregrin, SAMCO; Ms. Summer O'Brien, R. W. Armstrong; Mr. Wes Rood, City of Westfield; Mr. Joel Thurman, Hamilton County Highway Department; Mr. Steve Goodman, City of Anderson; Ms. Lisa Bihl, Empower Results; Mr. Kevin Mouser, IUPUI; Ms. Heather Gregory, Williams Creek; Mr. Robert Barr, IUPUI; Mr. John Duncan, HNTB Corp.; Mr. Brian Neilson, EMH&T; Mr. Jeff Sheridan, Town of Cumberland; Ms. Angela Sturdevant, IDNR; and Mr. Kevin Tungesnik, Spencer Restoration Nursery.

Review of Minutes of November 15, 2007:

There were no changes made; the minutes were approved.

LARE Grant Update:

Barr stated that the Alliance received a LARE Grant that was designed to allow for the analysis of existing work quality data (biological, chemical and physical data) for the Upper White as well as a reflection of existing management plans, review of existing 319 plans to bring these data together; synthesize them and see what we could understand in the Upper White. These are a series of tasks that a number of us working on the Upper White have wanted to do for many years and have not been able to do. We found funding through the LARE program so the funds were allocated and the Grant was received by the Upper White River Watershed Alliance. The officers developed our request for proposals and submitted that out with the scope of work. When we started looking at it we wondered when we finished this scope of work who was going to do it because the task was fairly daunting and consisted of going out and gathering up these data, looking at them, doing some temporal analyses of the data, mapping them out to see if there were any hot spots we could discern, etc. We started wondering who, if anyone, we were going to get to actually bite on this. In the process of developing the scope and sending it out Lenore and I with others asked if there was some way we could consider bidding on this as well. We can do parts of it, but we can't do all of it. Jill's firm, Empower Results, kindly agreed to take a lead and develop a team that's Empower Results, CEES and Contact Landscape Architects. We put in a proposal which was received by the officers. Since we put the proposal in Lenore excused herself from the review of this proposal, so this was reviewed by Tim Method, Josh Goode and Tim_____. We received two proposals; one from the center and one from Empower Results. Tim said there was a request from a third firm asking for additional time and the officers considered that and said no they needed to stay with their deadline. The word was given to Empower Results and off we went. We've been gathering data and we have a number of things in house now and have started that process.

Hoffman stated that the Tech Committee new when we all got together that the scope was big. The request went out to ten firms. We hope to capitalize on some university resources and will have a little better chance to stretch the scope further.

Barr stated that when they finished crafting the initial proposal I asked Hoffman who would do this with this budget.

Ward asked what the timetable was for this project.

Hoffman stated that the goal is to get a solid draft of the plan done by January of 2009 so we would be in line to go after future LARE Grants which are due January 31st. It would probably be a draft at that point, but we would still have time to review it with IDNR if we needed to. A draft would be strong enough to make us eligible for the next round of Grants.

Barr stated that our little portion of this project is to gather and assemble all the physical, chemical and biological data for the Upper White. We have gotten all the item USGS gauging station data, all the Marion County Health Department data, all the City of Indianapolis data, we have IDNR data, physical and chemical data from Tom Symons fish study; we have been going after, very slowly other county health departments and MS4 sampling that has been done and we need a little help with that; this has been a slower process. We know those data exist. The Technical Committee would be ideal in helping us locate any of those holes that might exist. We have a lot of spreadsheets already, but we want more.

Ward stated that Hamilton County's data is on our website.

Barr stated that Hamilton County has been more accessible than others.

Contech Grant Application:

Hoffman stated that Contech, who's been a good supporter of the workshop and other items, has a Grant that goes out nationwide, so I'm not sure what our chances are, except they are aware of us and have been supportive before. We submitted a Grant last time on the selection tool and making BMP decisions. This group told me at that time that it would be ideal if it was interactive on the web instead of looking for a base product; that it was something you could put site characteristics into potentially and have it kick out a solution. We knew that web programming was outside our internal capabilities and our budget so that's what the Grant was submitted for. The maximum you can apply for is \$12,500.00 so that's what I put in for. I have contacted IUPUI who does the database programming for River Watch and a lot of pro-bono low cost service, but out of dedication. I contacted him to see if he could do it for that kind of a range and he came back with a budget of at about \$10,000.00 so with our administrative costs we would be okay. It was due on February 1, 2008 and from what I could tell from their website they're making decisions by the end of February. We can still proceed with what we were going to do today, it would just be a matter of whether we have the funding to make it web based.

BMP Toolbox:

Hoffman stated that we had created a table work plan for the Technical Committee, a three year plan, and a lot of projects on that work plan included some things to be taken on in 2008, one was a master glossary of terms so everybody is using the same language and if you have questions about a term you hear about related to Stormwater or lot layout or things you don't understand you have a place to go. We took at least twelve different glossaries from around the country from Stormwater programs and pushed them into one. This glossary is 42 pages long, but we would like some volunteers from the Technical Committee that could look at this glossary and potentially weed it down. The plan is to put this on the web by alphabetic letter so you don't have to page through the entire list. The glossary is too much at this point and there are lots of somewhat erroneous things that I don't know how important they are, but I would like somebody else to help determine how important they are. If someone could look at it, sort it and give us some feedback of what they believe to be the most relevant topics we could get this up on our website.

Ward stated that Hoffman could send it to him.

Perigrim stated that he would take a look at it.

Hoffman stated that we have a photo library in its beginning stages. There is great framework there, Pell has done a watershed map in Google Earth and experimented with how to put push pins or flags on the watershed map of all the places that BMPs exist that would be good places to go look if you wanted to see what something looked like. The objective was to get people to embrace some of these things by being able to see them as well as provide the consultants that are designing them a chance to show some of their better work and get some recognition for that. We have one project right now as a trial; I gave Pell some pictures of a wetland project that Casey Eye did and they gave us lots of pictures. You click on the push pin and it gives you lots of pictures of this wetland project and describes a little bit about it. We've asked several times for more pictures from other people, but it's been kind of patchy; it's just a matter of each firm committing somebody from their marketing department and decides which projects they want to show off. This is a great opportunity to put some of their projects out there. Pell is ready to move on it if we're ready to feed him the information. All these projects at one time are hard for one person to do, but if we spread it around. If there is somebody who would like to, more affectively, nag people for pictures and location information then I would take a volunteer for that as well. The site is all set up, we just need the stuff to populate it and then we can link from our website to it.

Thompson stated that if Hoffman would put together a brief paragraph of what she's looking for I would be glad to send it on to ASAL membership and some of the design firms that I work with.

Hoffman stated that the goal for the website is to have a Stormwater Resource Center that has lots of different resources available. One of the obstacles to some of the BMPs is not knowing what to plant in them or not wanting them to look too weedy or too tall; try to get over some of the perception concerns about the vegetative BMPs. We are working on a set of tailored plant lists. This matrix is some of the ideas you came up with last time. The idea is that something that looks like this table or matrix would be on the website; you could scroll over and if what you're looking for is a rain garden list that is short statured, plants that are no more than three feet tall. The larger objective then is that there would also be a planting plan or a landscape plan; how to cluster what and where so it doesn't come up straggly; it won't be just a list, it will have some sort of diagram about how to most affectively get the garden to look good. Looking at it now, is there any other category or tailored list that you might want? Kevin and Lisa are working on this as well and could come up with another mix that meets a certain need that's not represented.

Ward asked about the backyard conservation.

Thompson stated that we have brochures for the backyard conservation program that we helped Soil & Water publish. I have some copies in the office.

Hoffman asked if we should have those links near this matrix.

Thompson stated that this is a piece of information that would go along with this; the brochures will be handed out at various Soil & Water and Backyard Conservation Programs; also Cool Creek Park has them.

Hoffman asked if there were any other thoughts about lists to create or obstacles you've heard people mention that might be helpful; a more tailored plant list.

Nielson stated that not necessarily more of a plant list as for the planting. Somewhere along the line of tips on what to do and what not to do, what to look for, etc. It would fit directly with taking the plants and a planting plan and some tips on design; there are little things that make that first and second year a lot easier before the plants are established; mulch, the type of mulch that's best; the idea of which ones are native plants, which ones are weeds, which are ones to pull; there are very simple ways of doing things like in flagging or the mulching aspects that save a lot of effort.

Thompson stated that he would be interested in seeing if these types of concepts and backyard conservation couldn't be melded or integrated in with Master Gardener type programs. It seems like a good fit.

Neilson asked if there were any design links that are going to this. There is a variety of items or brochures being put together that are readily available. My concern is that there is the backyard, rain garden and then the attempt at water quality treatment from a development designer. The good part of the plant list doesn't matter.

Hoffman stated that the important thing for us to include is that it stands with a list about water depth because that does matter for the plants. All the projects are related, but this is something that could potentially stand alone with at least some assistance from people that really know plants.

Central Indiana Stormwater Quality Workshop:

Hoffman stated that the break out sessions are getting a lot of interest across the entire state.

Bihl stated that we are at approximately 200 for attendance and vendor exhibitor booths at 25.

Hoffman stated that we can take the attendance up to 300 comfortably with the space we have. We will keep promoting that. The brochures say that registration is due March 1st, but depending on where we are on March 1st we may take them afterwards. If there are people at your company interested now's the time to get those registrations in.

Rood asked if there have been a lot of contractors and developers signing up for this workshop.

Hoffman stated that there have been.

Rood stated that this is who we need to target with this workshop. I know we all are probably going to attend it, but contractors and developers are the ones we need to drive this home with.

Bihl stated that there is about a 4-1 ratio between contractors and MS4s.

BMP Toolbox – Continued:

Hoffman stated that at our last meeting I handed out an example from California. We did some web research looking at several decision making tools for selecting BMPs and pulled in a lot of examples. The one from California was probably the most complete, in terms of having thought about all kinds of social things in addition to engineering. We checked into some work that Tetra Tech is doing with an EPA Grant. The thought was to come back to this meeting and discuss an example to see how we might tailor it for Central Indiana. Nielson and I met to set up a framework for how this decision making selection tool would fit into other things on our work plan and the other pieces that are critical to the success of BMPs; it's not just the selection of them. Some of the success of the BMPs are related to things like maintenance compliance and the staff that reviews them understanding how they are functioning. All coupled with that is the idea that there are incentives to get people to do and select more types of BMPs than just your standard pond-pipe scenario. The objective with the project is to get people comfortable with using different sorts of BMPs and in particular the infiltration BMPs. From a water quality perspective that's where we need to be. We're not getting the right treatment out of our pond systems and we're not getting recharge of our ground water out of our pond systems; we're getting a lot more surface water flow pushed into our streams that's causing a lot of down cutting and erosion. We need to figure out how to engage people in more infiltration style practices and then how to help our municipalities review those practices so they know it's worth buying into and they're not going to have water problems. It starts with selecting the BMP. The design criteria piece really can't be separated from the selection piece too much. You can't really select a BMP based on the color of flowers you might be looking for. If you put too many of the social esthetic factors up front we're not meeting the needs of the design factors; things you have to get through first. Nielson will introduce you to an idea on how to do that and how this might work; whatever structure we develop; this decision making tool would go into that web based thing if we get the grant for it. People would be able to go through the process on the web, but in the meantime if there is a way we can deliver the decision making process in paper format then that's what we do. There are some policy-type things that the Upper White might have to come out and say; that this is our policy related to ground water to offer so much separation or our policy or recommendations on discharging to impaired waters and we'll see the regulations about impaired waters change. We talked about the most affective way to bring in a lot of the things we liked about this model; some of the social and environmental concerns; does the thing provide shade?

Is it a wind break? Is there recreational value? All those things that would help somebody make a choice; we call them soft gates because they're not as make or break as the hard core engineering that Nielson is going to talk about.

Nielson stated that the web site for the NRCS soils provides a newer level of GIS type capabilities and soils. Although I have three items on the site assessment potential for this infiltration BMP selection, it's basically soils, topography, soils and soils for green infrastructure, especially infiltration. This is 180 degrees from basically existing practices from development as I'm aware of them; I say that from traditional or conventional versus the green side. This goes with the very first statement of think Stormwater first then lay out your site. That isn't how it is typically done. This is part of what I consider short term/long term upgrades from at least the history that I'm familiar with for both urban and suburban storm water as maintenance; this tends to have the first budget cut, it tends to be let alone and green infrastructure infiltration BMPs have a very direct strong assumption that maintenance is there, it is being done and if it's not being done it's a compliance issue; otherwise it's going to fail from a perspective of water quality and one failure on this will have a lot of naysayer's saying see, its not working, we don't want to use it and it does work. This is integrated directly with the design criteria and what I like with the idea of the Upper White Alliance specifically as a resource is having a design criteria whether for infiltration or any other BMP that is covering across the board the political boundaries, the idea that there is a good way to design these; it goes back to the soils and that the design criteria is integrated directly into any yes or no process. There are policy issues here; there are regulatory issues here that I've made some assumptions based on regional and national trends, but they are decisions that have to be made before this document would even come out of draft idea policy type discussions; specifically ground water separation. Wisconsin requires four feet from the bottom of an infiltration; the more you're digging, whether it's a trench or your bio-retention filter sub-drain trench, etc., four feet to a ground water. That is very protective. I have seen it as little as two feet; that's two feet separation after your filter material. I would stay two feet with four feet as a goal in the process and that goes with type soils underdrain topography. There is an educational component to this that is integrated; not only for the public, but more so for the civil engineers. The civil engineers are the last in line to figure this out and they'll be the hardest educational component; as soon as you start getting your design criteria out that will begin. The soils are a known entity and a site assessment similar to a Phase I environmental assessment. I looked at this also from the base line action of permit compliance and permit approval processes because somewhere somebody on your staff has to sign off that this is approved and from that it gives the opportunity to look at resources and check lists that are already available to start getting that permit approval process fine tuned. The State Board of Health program for onsite septic systems already has a soil matrix component, soils of Indiana, it needs to be modified for the Stormwater side, but it's inherently the same. SWCD's have their local soil understandings and continuing to use them as a resource. Ground water depths are looking at site assessment for soils. One item the State requires when you're putting an onsite system in is that you have a soil scientist do the soil assessment; five feet or three feet because from their perspective they're looking for the ground water and they're looking for that lens that stops the percolation process. If you're going to use infiltration without sub-draining you have to have knowledge of your soils. If you go through this process and you want to use engineered soils; that's part of the possibility if you have topography, then you don't have to worry about that. You start looking at the opportunity of using your filters as your storm water storage as well and you can start increasing your depths and that goes to design criteria, but without topography, without the sub-drains you don't have that answer to these questions. Rain gardens in series, you're using a vegetative swale in a manner that is now a treatment train in process by allowing a functionary of what has historically been only transport or conveyance is now a treatment process for smaller storms and a conveyance process for the larger storms and it's a multiple use single channel facility. That is

not out there in the regulatory world and not out there in the models that your checklists have today.

Duncan asked when it comes to the use of this one might perceive it to be a black box; it all comes down to the user of this tool. Who is the intended user of this tool?

Hoffman stated that site designers, engineers, etc.

Nielson stated that his idea is for civil engineers and landscape architects.

Duncan stated that there is so much judgment that's required in all of this and it's so complicated it would be a bad thing for one that didn't have the fundamental understanding of how this works.

Nielson stated that this goes back to the continued emphasis; its 180 degrees of how it's being done now and there is no differentiation between the design criteria and this process. There is assumption here that the design per soils, per site is tight; there is a design criterion that is followed and it is applicable. Right now there is a lot of creativity available in a lot of different designs, which engineers don't like, but landscape architects love. If you're putting in a pipe basin pipe system there is very little creativity involved with that; you have certain bottom lines you have to meet because there are ordinances and standards from the thousands of years of building pipes and basins.

Duncan stated that it's easier to calculate all those things when you're talking pipes and ponds, but what you're talking about is difficult to quantify.

Neilson stated that this is where he would disagree. That goes with the design criteria establishment; you are literally stepping back. I want to go over what I believe are current design criteria faux paws; they were good ideas at the time, but in my opinion, no longer good ideas to put forth; the concepts. It follows exactly what you're talking about, that decision process is a design criterion; you build it *this* way if you have *this*. This also goes to the educational component of staff and experience. As more experience, more research and more information is coming on people are getting experience.

Hoffman stated that is the reason we thought this is one of the projects that has to happen because the push back that reviewers always get is from designers that say it's easier, that's why we have ponds everywhere. This is part of what's going to have to go hand in hand with education, but is there something that makes it less difficult or more normal to think about infiltration practices. I don't have the perspective of laying out a site, but I watch water quality across the state and if we don't move in this direction or make this stuff less scary we cannot continue to keep creating ponds that bring in more pollute loads and keep pressuring our urban streams with discharges. We're trying to find a way to get over the major obstacles or make things talked about more or less scary. The target audiences are the people designing; that's where we need to be.

Nielson stated that we're taking a creative process and making it cookie cutter. However, it still has a creative soft side to it if you so desire, but there is a hard side that can't be created.

Duncan stated that you still have to quantify in order to put it past the regulators and such because they need this.

Nielson stated that there is a certain level of design criteria that doesn't exist today in anybody's manual and that's okay because that's how we've advanced and the manuals are being updated and that goes to protection and maintenance, etc. As I see designs in anybody's manual across the nation they are done almost with the thought process of a backyard *something*. Very rarely am I seeing a hard development base design criteria where they're looking at water quality specifically and how you're using these facilities as water quality treatment processes; it's still rain garden mentality in my opinion and that to me is somebody putting it in at the bottom of their downspouts; that's okay because that's the natural flow and process of educating the public and getting there, but it's not going to do for a permit.

Hoffman stated that the challenge is the people that are checking off that are also now being faced with pressures to stop degrading our streams. These are people who have water quality permits they are being held to, so it's the same people making those reviews that could potentially be strung out if they are in non-compliance; it's like pipe source discharges, if they're out of compliance you get fined. It's not a far jump to think about non-point source being handled the same way as the regulations about discharging to impaired waters being restrictive.

Nielson stated that EPA is already saying that this is what's happening and it's going to happen and it's not going to be as long as people think it's going to be. They are called point discharges regardless of sheet flow. If you look at the definition of the NPDES Stormwater, there is a reason those definitions are stated as they are and that's because they are equivalent to the point discharges of wastewater treatment. As people continue to modify and move forward the TMDL 303d listing process and the NPDES compliance process are going to come to a very hard come together meeting and it's beginning already. The intent is to get this to a basic yes or no process. Do you have your ground water clearance? I didn't give you an opportunity to say no; you are putting something in; if you choose infiltration there is no getting out of it other than you don't want to do an infiltration BMP then go to another selection process or another BMP, but once you get past the idea that you're using infiltration, and that may not be the case, but if it's all applicable it should be. If you're within that two to four feet ground water and you're doing a surface rain garden; that four to six inch mesic depression; you're emitting the soils so the plants grow, but that's what you're doing; it is a rain garden. If you're not within that ground water then you start talking about soils again; will they drain? This is specific to the porosity of your soil assessment. If you have in situ soils that will drain then you go build it; again put in there that idea of beginning the process of building it without compacting your soils because the contractors are learning, but they're not anywhere near going out and doing that; historically you don't want water coming into your trenches. If you can't drain it then do you have topography to do your underdrains; can you outlet it somewhere because once you start talking underdrains the incentive of cost reduction tends to start going away because now you are putting a pipe in whereas part of low impact development, part of the BMP process, green infrastructure, etc. is a cost savings we're getting rid of pipes. You now have the opportunity though to have a pipe system to have your sub drains; you still have incentive here, you've just taken away some of that economic benefit. If you do have topography, you go do your engineered soils; there is a wide discussion out there right now what engineered soils should look like from 80% sand to 50% sand, but there tends to be nothing less that I see than 50% sand. You're beginning to see a filter material being put together. If anybody has leaf collection and disposal practices this is a prime place where people are beginning to see putting dead leaves in because they don't have a nutrient and it provides a very good nutrient for your infiltration. If you don't have the topography, can you reduce your soil filters, soil depth, this goes from the two to four feet kind of thing; if you can still maintain that two feet, you do a shallow underdrain basically looking at a foot of filter and a foot of underdrain as a minimum type of criteria. Your design criteria is going to say you have a minimum of two feet, a minimum of four feet of filter material for whatever incentive you may

have over here and this goes back to this list of how everything is interactive, but if you want a design criteria of a four foot infiltration basin or bio-retention basin and you then have an incentive of something; as an example Cain County, Illinois says if you have four feet or you have a sub-drain, you have a certain level of filter material, whatever comes out of that drain pipe is no longer considered storm water; if you're looking at how you set up basins because you're peek discharge is so offline, you've reduced it so much, it doesn't even exist in that range form anymore, they've said we want this that if you can show that you drain and do all this then all of a sudden you start seeing two foot, a foot and a half depths versus that six foot depth; that's an incentive and that's how this kind of works. This standing on it's own it can't work, it has to sit with the incentives, it has to sit with the design criteria, it has to sit with that permit checklist. If you can't do any of it you're right where you started, you're building a surface rain garden. There is no doubt in anybody's mind that it's cheaper to build Stormwater treatment plants on rivers than it is to contaminate ground and treat the ground water and that's the whole idea of separation.

Peregrin stated that intuitively you're saying if you don't meet the 48 hour infiltration drain time you're going with the 50% to 80% sand mixture; I believe that is something that needs to be looked at a little bit.

Nielson stated that he has put in what he's seen as a trend out there. What I don't like about the in situ soils is if you're going to allow that then there's a different site assessment and infiltration process that needs to be done as part of that otherwise you will get somebody stamping a set of plans saying that this soil will drain in 48 hours and it doesn't and then their gone and it's not working. I would agree that 48 hours is a long time, but it's not a long time, its pure health based; this is again going with the mosquito based process; that is the only reason there is a time limit; 48 hours just happens to be Ohio's time line. Other policies and criteria that's not part of this are such things as first flush containment, 0 discharges for first flush; this doesn't take that into consideration. Ohio has a $\frac{3}{4}$ of an inch rainfall onsite retention 0 surface discharge; if you put it through a filter its fine. I'm using anybody other than IDEM because they don't have much. I use what I'm seeing out there that has opportunities for discussion; I don't know that they will necessarily be with the politics or the policy of the Upper White River Alliance boundaries.

Hoffman stated that we have to start these discussions somewhere or we don't move off the point we keep hearing from everybody which is its too hard to get it through permitting; I'm just building a pond.

Nielson stated that this isn't fair to your permit reviewers. There is a staff out there going through difficulty trying to do the right thing. You have people on one side saying it works and people on the other side not wanting to do it. Some conversation pieces on the California process is drainage area size. The drainage area size delineation, dictation, is based on the backyard rain garden mentality. Engineering wise, hard gate wise, there is nothing that says you can't do any size facility as long as it's designed hydraulically for that process. You'll see a lot of literature that says five acres has some sort of magical size element for your BMPs. If you have the regional opportunity to put in fifty acres of watershed into a single location you can build that single location so it looks like a lot of different five acre sub-watersheds or you can build it to react hydraulically. When the civil engineers figure it out they're going to go to their brother on the wastewater treatment side and ask how do I build these things now; my basins as well as my treatment processes so that I have primary treatment, secondary treatment, polishing treatment because if you look at an infiltration, bio-retention basin it's a wastewater treatment plant; it's the same biological function on a smaller scale. The whole idea goes back to design criteria and when we get there, there is a lot of small things in the design process that have to be there that

aren't there yet. Pre-treatment is the number one process for maintenance ease and for protection of investment and for protection of facility. If you look at backyard rain gardens and you look at a unit price for those you could talk about \$50,000.00 to \$60,000.00 per acre unit cost, but you're only building 15'x15' section so you're not getting that break in cost. Be very careful with the cost even coming out of what's out there today; permeable pavement is probably the best analogy; there just hasn't been enough done out there yet to get everybody comfortable with costing that's low enough to do it right and have that low bid mentality on the process. I'm hesitant to put out any cost estimates other than wide ranges. I do like the soft gates, from an engineering standpoint, but it makes no difference, but research is showing that if you're looking at the filter media of a bio-retention that it will work just as well with turf grass as it will with native grasses; it won't work as well in situ soils, but be careful with the soft side; to me that's educational and incentive not necessarily required. Years ago when this group was first established a political alliance of this nature for water quality purposes is absolutely how the long term water quality functioning is going, regulatory wise as well as everything else. Watershed based is absolutely where it's going. Sooner than later you'll have something within Cincinnati range, the SD1, Northern Kentucky Sanitary District 1; the idea is that they have one of the first permits for Stormwater MS4 combined sewers, sanitary sewers where they no longer are looking at them as separate entities, it is one permit for the entire thing. The good news is that they now have three or four different budgets to go after water quality issues regardless of whatever else is going on. They are no longer spending money, tax based money or legal ordinance based money on Stormwater when Stormwater may not be the number one water quality issue. That's where it's going and that's where this alliance is years ahead of a lot of other places.

Hoffman stated that people that step up in their discipline give us some technical expertise. This is one way to go at this, but when we started diving into it there is this community that needs some answers, both the engineers and our permit reviewers. I don't know if this is perfect, we're just bringing this as a place to start looking at how to help people through design pieces and then knowing that some of the soft gates that doesn't matter, we know it does matter from a social perspective, but maybe that's where our education committee and some of the work with the MS4s might take on those issues in terms of promoting different aspects of these things that have all the social benefits. We need to know from this committee if there is interest in taking this another step. Do you see this working?

Nielson asked how you see going to the design criteria phase as an alliance versus as multiple entities. Is there intent to do that? In other words, have a uniform type of design basis with whatever singular differences. It goes with your glossary terms; you define the glossary which is actually your first step of defining your design criteria; going to that design criteria for a variety of BMPs. We talked about four or five design criteria just on the infiltration side. I'm interested in participating.

Barr stated that since we began this initiative I've raised a question a couple of times of whether or not this toolbox would get to the intended audience. Are we trying to educate civil engineers in design criteria and processes? If that is the case then I don't think this is really the venue to do that. I don't think engineers are going to come to the Upper White for their continuing education. At the same time as we've been considering this the one thing we do have that could be very powerful is to say in the Upper White River Watershed to improve water quality in the watershed, these are the types of things we want to see you do. I think that's a little bit different than the toolboxes we initially started thinking about it, but I believe that this is the powerful edge that the Alliance has. This is a creative process; it takes a very good, better than average engineer to look at a site and envision what they can do using these different methods and processes and that's a very site specific type of task. You go out and literally read the site, but given an encouragement

to do that by the Alliance; this is what we want to see and the Alliance is large enough to even push that on a regulatory format; to say '*IDEM, we would really like to try this?*' The collective process in doing that, I think, becomes a little bit different because it takes County Governments to agree, it takes municipalities to agree that this is what they collectively want to do. The process becomes more of an education of those municipalities and counties and why we want to do this.

Nielson stated that it goes back to discussion we had even earlier. There's a strategy requirement and all of these are complex or non-complex, but they are all linked and there's a buy in somewhere before you get a design. From the civil engineering aspect, other than ego, we are engineers and we know what we're doing; there's a lot of people quietly begging for the design material; show us what the acreage that we can put into it, what our CN values are, give us a model, but it's basic stuff that they are begging for, but nobody from a competitive standpoint of going after work, side by side of your complex competition will come out and say we don't know what we're doing, please tell us how to do it. The younger, more naïve engineers are, but they're being quieted by the more grizzly engineers fairly quickly. There are requests for design criteria presentations and there are requests not to perform design criteria presentations because you're then giving your competition the answers to your process.

Barr stated that a lot of creative designs are sitting out there quietly on the side; they know how to do it, but they don't want to tell anyone.

Nielson stated that there aren't enough out there that once the design criteria and a variety of other things are out there and everybody's doing it and it's not that far away for reasons other than what we're talking about, money. One group that we really need to take care of right now are the permit reviewers; everything is for them.

Thompson stated that when he was at Storm Con last year out west, there were about 200 people there discussing Stormwater quality requirements, and an engineer stood up and said we're ready to do this, we want to do it, we can design it, but we can't get it past the regulator. I know this type of conference will help and give us a tool to educate, but I believe the regulators do have some tools that we can use to require certain things, but on the other hand we need a critical mass of projects that have used these techniques that have not resulted in flooding to the subdivision or to the residents downstream or upstream; there has to be a comfort level and once that is reached the plan reviewers and the regulators will begin, not accepting them, but maybe requiring them. They are requiring them to meet certain Phase II rules; Carmel says you have to have two BMPs; Hamilton County has to do the best you can. There has to be a comfort level and I believe the regulator is the one that will allow this to happen or not to happen.

Nielson stated that he would go above the idea that, having been a regulator in my lifetime, there's going to be a necessary risk analysis; someone is going to have to take a chance that it will work and then assist that process.

Thompson stated that in the last five years I've had my eyes open to things that I hadn't realized in the past and saw a different side of the table; with mixed feelings I'll have to say that some of these are great, but unless certain precautions and certain designs are done right flooding can occur because of root invasion. I've seen large pipes so full of roots they won't carry anything, so while a rain garden or bio-retention structure is fine, if it's not designed right you'll get root infiltration and you'll have to rip it up because it flooded the residents in subdivisions. You only make that mistake once and then that practice will not be allowed.

Nielson stated that one issue is the protection of the regulatory entities. It is a risk management assessment, but again there are national examples of this and this is where we can talk and get discussions going. There are economic benefits of doing some of this if done properly. Like it or not, depending on how it works, they should share that for the benefit of the risk of the regulatory side and that goes, in my opinion, to maintenance bonds or something, so as an entity you are not hanging out for these processes that you're not used to taking care of at this point in time. In twenty years this will not only be a trend, but you'll be losing money.

_____ stated that there are three fronts we need to be thinking about; first educating the engineers and educating the regulators, but we also need to bring the politicians along with us. If you don't get funding for the regulators to do their job adequately; if the politicians are saying they don't want to slow development down, we've got to bring them up to speed so they understand that there are benefits for the community at large if you do some of this. We're running into private citizen groups that are facing dredging their lakes and other things and they're getting upset because the politicians aren't understanding that this isn't regulation gone awry, it's the fact we need this so we don't have to spend a bunch of our money to maintain something because we're not getting it done correctly through our regulation program. We need to keep trying to educate all the groups we can and get this thing rolling.

Nielson stated that the aspect of politicians, given a strong state presence or assisting a stronger state presence, the NPDES Rule will assist the politicians pretty quickly when they start becoming signatories on an NPDES program that could put them in jail. It will only take a couple of examples like they did with wastewater treatment plant operators and a variety of other people; it only takes one operator in the State of Indiana to go to jail for screwing up at the plant and all of sudden every plant out there did an audit.

_____ stated that with the tax cap to the state property will generate some interest at the local level because localities and municipalities are going to be losing money; they will be looking at ways to save money.

Nielson stated that if you're in a position where utilities are considered taxes now you're fighting a political basis of trying to increase rates on a tax during a period of time when everybody's cutting taxes. There is no win on that. To me its doing the best we can to get as much of this in as possible; as good as we can get it in.

Hoffman stated that we've been waiting for over four years for the BMP manual to come out of IDEM hoping there would be design criteria that's not giving people the answers they need. They are not applicable designs people can take and run with and it's nothing new. We have lots of our municipalities with technical standard manuals associated with their Stormwater BMPs that vary a little bit across political boundaries, but are also not serving that need. How do we know if we've approached this on the education outreach front to see if the MS4's could come together on that front? This may be another place where they come together on a design front. They'd be doing themselves a pretty good favor to have a nice checklist or stronger understanding. Where do we go from something like this? Do you want to continue down a path of a decision making tool, whether it looks exactly like this or is this a helpful piece to our engineering community that's important to couple with some of our other projects? Is there another approach? Do we spend the next meeting strategizing about how we make this stuff more mainstream? We have these little projects going on that are attempting to do that; the photo library, the plant list, but this is the big piece in the room. How do you make the designs more mainstream and people's acceptance of them or use of them in comfort with the permit review?

Any thoughts on where you want to go from here? Have you thought about the things you've heard?

Thompson stated that from his standpoint the quicker we get something done the better; start small. We have the photo library, the plant list, we have the brochures, but until we find out if we get a grant and make this operational maybe we put this on hold and concentrate on the others; get something there and on the website that's useful and visit this at the next meeting.

Nielson stated that he would be following up on this from a variety of levels and will be passing it around. This is something I anticipate working on at a variety of levels and will be happy to bring them back. Working through Hoffman and the group; slash them.

Thompson stated that he spoke with a representative from AMEC working on something similar or has interest in this; maybe we don't create two separate things.

Williams stated that Tim Method is on board with this; I've been to a few of his meetings and it seems like a lot of the efforts that AMEC has set up for the city; there's a lot of crossover. As far as getting the tool automated we've budgeted a programmer to automate a tool, but not this comprehensive, it was more of a water quality equation and water quantity equation where you could select the BMPs to use; it wasn't site specific where you're getting into the soil and groundwater, it was more of an engineered tool so civil engineers could use it and be comfortable with the kind of designs, but that might be asking for failure. A lot of these ideas are on paper and I'm working with Nielson and Jennifer Roberts from Elements and a couple of people from Williams Creek. The scope was approved by the city and there's money to do some of this.

Nielson stated that duplication of efforts is a very good point because I am beginning to see that across the board where HHRC&D are putting out a very good rain garden brochure for intensive purposes and there is a variety of other things going on out there that many of us on the outside are helping along the lines of a variety of different groups are kind of blinked in and the Alliance I see as a nice focal point location for linking or communicating the idea that some serious fact sheets for Central Indiana are going to be put together by the City of Indianapolis. There was some discussion months ago about this group doing that. If it's not exactly what the Alliance wants it's easier to edit than to regenerate. With everybody sitting at the table and sharing that resource somebody has to do something, more than likely by permit requirement.

Hoffman stated that Indianapolis has put full support behind Alliance activities and Tim (Method) thinks this is the way to go. Where would you like us to go from here? Would you like us to continue working on a concept like this? Would you like to digest this and send me any ideas back?

Ward asked if Neilson has run this past the Central Indiana Engineering Group.

Nielson stated that this Committee is the first to see it. I would prefer this group to go through this and make it a group effort to whatever it ends up looking like; whether it looks like this or something else completely and then have the Alliance suggest that from a water quality standpoint this is what the Alliance would like to see. To put this out there and let engineers comment on it at this point would not be a good idea; let them talk hydraulics and modeling to make it real to them and have the basis of design set for them.

Barr stated that even with our egos in check the science and the engineering behind these stand behind policy decisions that will implement these; until municipalities and counties say this is what we want to do we do what we're told. We can suggest, we can give best professional opinion and so on, but we don't lead.

Hoffman stated that she respectfully disagrees only because what we're doing with the Little Eagle Creek outreach effort. We're taking a presentation to the officials showing them why it's important from a water quality perspective; what kinds of amenities can be created with these sorts of practices. I have done about fifteen of these in front of plan commissions, drainage boards and town councils without doubt, nobody has ever said I don't want that; they all say 'we do want'; we're done with geese in ponds and we're done with erosion on our streams; they embrace it, but sometimes you have to bring somebody what they want; they have to see it, so being the one to lead a message like that; we started with one presentation to one Solid Waste Board and it spawned sixteen presentations because people sitting in the audience asked me to come talk to their group about those issues and show us that it's something you can do on the landscape.

Barr stated that he agreed with Hoffman completely, but that's exactly what drove his thinking on this; until those people say make it happen we're getting nowhere. You're talking to the elected officials and you're talking to the County and the municipalities.

Hoffman stated that what she can't keep talking generating interest and then have an engineering community that doesn't know how to deliver or we don't have the right material.

Duncan stated that when an engineer is serving a client the client is the one that determines the scope and if they want green infrastructure, they tell the engineer and the engineer will go and figure out how to deliver a green infrastructure. You don't have to teach the engineers.

Peregrin stated that he disagreed because I believe there is a lot of engineering firms that like to do what they've done because it's easier. If a client comes to them and says they want something, there are some that will steer them in their direction because it will be cheaper and faster and will get it through. The engineers have to be educated here as well.

Nielson stated that there are a variety of strategies. It was not an unconscious or a subconscious. The thought process of developer money hasn't been by chance that after all is said and done and the people that are pushing a lot of political policies and issues tend to be developers and they're beginning to see that the economic benefits of these tools will make a developer stupid not to use them. It is a money making process and given that the development community is the one telling the engineers to do it.

Peregrin stated that he sees this as an educational process. What we've done is a major paradigm shift. Engineers are going to be told not to put in a pipe that gets the water offsite as quick as you can now, you have to start letting it soak in. We do a lot of things with retention, primary sediment control is taking care of, but if EPA is going to start coming down with more and more requirements to solve some of these other pollutants we've got to start going down that chart passed out and go to some of these infiltrations and some of these other practices to control the other pollutants. We don't want to play the threat game, but we don't want to play change everybody overnight; we have to start explaining that if this happens that we have to do more broad thinking about controlling the site runoff, we've got to start looking at the practices we're using and we've got to start thinking not retention is always the solution to everything; I believe you're charts are going to start showing that so I believe we should package that. Up front we

may be saying things in general nature, this is what we think and why we think it and then as we get down to getting the engineers together we're going to start getting numbers together and put it on there. We're bringing everybody at the same speed together which is probably in the long run, a longer process, but in the short run it's probably the best process; we have to bring everybody along at the same time.

Nielson stated that you have to ask the elected officials what's going to have them get this through and what realities of politics does the strategy have to take into effect; beyond that we're going to be doing variances and a variety of other things. There are very few wrong things at the table, everybody sees the perspective.

Hoffman asked if it would make sense at the next meeting to spend some time strategizing about where you want to go. I've mentioned to you we have a BMP presentation, but we've been asked to even go outside of the watershed with it; there is so much interest in it. It took a set of graphics that could communicate well and then somebody to deliver it in a way that it gets people to connect to the water quality issue.

Nielson stated that this group has potential beyond what they believe and that's the urban water quality aspect even over the new development.

Hoffman stated that knowing we should talk about strategy in terms of outreach, but do we continue to work on elements of a decision making tool so if interest comes along we're ready or do we want to spend more time on other outreach efforts?

Barr stated that Trent (Pell) has built a map and we can locate BMPs on it; it doesn't sound like you've had a lot of traffic in terms of sites to put on there; it seems like something that should be out first.

Nielson stated that it's not so much populating your pictures today; it's your long term process that is populating it so that where you see the pins they go back in and see more pins, but if you have a straight forward form and make it requirements; the requirements of getting you're picture on the process; then people will fill in the blanks and fill in the information.

Hoffman stated that we need to continue to work on some of the other projects talking about messaging as a priority. When I started this my goal was to figure out how to market the Upper White; we need to provide things that are useful to people. Leading discussion like this or leading products even if it's debates it still puts us where we need to be to draw more people into the larger effort.

Nielson stated that when he gives his presentation on the 12th his intent is to not only represent his firm, but I would also request that I represent the Upper White Technical Committee as part of this process because that was the intent when I got into this, working with Hoffman, was that my commitment to you as a group is to also sell you as a group because I believe you are that valuable as a group. Do I have your permission to represent you in the presentation?

Hoffman stated that this is what the Alliance is about; we're a cooperation; that's why I said put your names on your BMPs that you've designed; this is about helping people know where to go for this kind of stuff.

Golf Outing:

Thompson stated that there was a question as to whether the Upper White wanted to do another golf outing this year and if so, we will need volunteers to help put this on and take the burden off of Hoffman, who probably has a big enough plate already; anybody who would like to assist putting on a golf outing send an email to either Hoffman or myself.

Hoffman stated that we brought this up to the Board and contacts of our fundraising efforts and what we can't afford to do is spend the very limited amount of my time on a part time contract going after a month's work of contract salary to try to bring in another months worth of revenue. That can't happen. We need to figure out if we're going to do something like that then we need a strong volunteer staff.

Barr asked if that is the best type of fundraiser. Is there something better? There was no answer given, but just a question that came up.

Hoffman stated that the Board said at their next meeting the focus is going to be a fundraising strategy. They will look at either more lucrative events to do or do we need a better donor solicitation program where it's an hour of my time at lunch reaching the right person that puts down a \$5,000.00 check, that's a lot better spent time.

Next Meeting Date:

The next meeting was set for Thursday, April 17, 2008 at 2:00 p.m. in Noblesville.

Kenton C. Ward, CFM
Hamilton County Surveyor

Attest: _____
Executive Secretary