

Assessment Report

The Community/University Partnership

in conjunction with the

**Left Fork of the Mud River
Decentralized Wastewater Demonstration Project
Lincoln County, West Virginia**

prepared by:

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25 October 2006**

prepared for:

Ric MacDowell, Principal Investigator

funded by:

Wall Service Award Project

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I. Executive Summary

The Left Fork of the Mud River Decentralized Wastewater Demonstration Project (hereinafter “the Project”) is one of six federally funded alternative wastewater demonstration projects funded by the 2003 Federal Appropriations Bill. The Project seeks to address the problem of high E. coli and coliform bacteria counts in the Left Fork’s rural watershed, where septic systems can be failing, substandard, or absent and where the extension of municipal water services is unlikely for the foreseeable future. In order to assure the success of the Project, in terms of both good science and effective community education and participation, the Project has been built around these seven key objectives:

1. Support leadership development, critical thinking, and project sustainability in the Left Fork community
2. Sample and analyze streams and tributaries in the Left Fork Watershed
3. Install appropriate wastewater systems and monitor their effectiveness
4. Incorporate the Project into Lincoln County schools.
5. Create reports based on Project research
6. Disseminate Project findings
7. Comply with various Project reporting requirements

This Assessment is focused on the community/university Partnership (hereinafter “the Partnership”) at the heart of this Project, which is charged with carrying out the Project objectives. For the purpose of this assessment, that Partnership is tiered, with the levels being roughly as follows:

1. Primary Partnership: the relationship between the four co-investigators (hereinafter the “Partners”): Ric MacDowell and Nona Conley (“Lincoln County”), and Clement Solomon and Tamara Vandivort (“Morgantown”).
2. Secondary Partnership: the relationship between the primary Partners and the following immediate constituencies:
 - i. residents of the Left Fork watershed as potential recipients of wastewater systems
 - ii. Lincoln County Commission as fiscal agent and group ultimately responsible for the funding and success of the project
3. Tertiary relationship: the relationship between the primary and secondary Partners and other near-immediate stakeholders such as:
 - i. federal, state and local agencies and officials
 - ii. university and community offices and officials

This Assessment focuses solely on the Primary component of the Partnership (#1 above). It is important to make clear at the outset that this report is by no means a full and complete statement of what is or is not effective in the Partnership. Its conclusions are based primarily on interviews with the four main Partners. Thus, this assessment reflects on what they reported, on the background materials they provided, and on the

observations of this researcher. A more involved assessment would offer more specific data, more concrete assignation of responsibility, and more precise recommendations for improvement.

Even with the limits of this research design, however, this assessment revealed, first and foremost, significant tension between members of the primary Partnership which shall be the focus of this report. That tension, which exists primarily between the two different sites (Lincoln County and Morgantown) has coalesced around several different issues:

1. Paradigms, goals and expectations
2. Timeliness, responsiveness, and access to the community
3. Expertise and the sharing of information
4. Communication and communicative styles

Although some of the Partners are more frustrated than others, all seem to recognize, at least to some extent, that frustration and tension have become an unwelcome part of the Partnership.

This assessment does not conclude that the problems in this particular Partnership are emblematic of all community/university partnerships. That finding would require significant additional research which investigated this particular Partnership more deeply and compared it with other, similar partnerships. But this report can safely conclude that the problems in this particular community/university Partnership are significant, and are at least partly due to differing understandings of the Project that may be connected to where each of the Partners are sited (within the community or within the university). Even with that difference in siting though, the Partnership might have been, and might still be, more successful if all Partners agreed upon the same set of project goals, responsibilities, and timelines and if all Partners shared the same understanding of and commitment to communication and information sharing.

II. Objectives

a. Evaluation Impetus

Principal Investigator Ric MacDowell asked for this Assessment as a way of trying to independently identify and perhaps resolve some of the conflict that had entered into the Project Partnership. He set the Assessment goals as follows:

1. To assess the strengths and weaknesses of the Partnership
2. To try to unearth communication problems within the Partnership
3. To offer recommendations that could improve the functionality of this Partnership.
4. To offer Partnership recommendations to future community/university research teams that might work in similar contexts.

b. Main Evaluation Questions

The bulk of this evaluation is drawn from interviews of the four co-investigators, each of whom was asked to address the same set of questions (see Appendix A). Those questions were grouped around the following five themes:

1. Project Description and goals.
 - In an effort to get at how each participant perceived and defined the Project, each was asked to describe the Project itself, his or her role in the Project, the relevant terms, and the Project goals (both stated and personal, explicit and implicit).
2. Technical and Partnership questions specific to this Project
 - Each Partner responded to the same set of technical and Partnership questions, which addressed how the science and the Partnership worked.
3. Partnership Assessment
 - Each Partner responded to the same set of questions about the effectiveness of the Partnership itself. Each was asked to describe Partnership strengths and weaknesses, where the Partnership was effective and where it was not, and what frustrations, rewards, and challenges each had experienced in the Project and the Partnership.
4. Partnership Recommendations
 - Each Partner was asked to make recommendations to improve this Partnership. Each was also asked to make recommendations to future research Partnerships that might help others to avoid the frustration that had come to characterize this Partnership.
5. Definitions
 - In an effort to ascertain how the Partners defined the specifics of this Project and their roles in it, each Partner was asked to define the same set of terms.

c. Main Audiences

There are three audiences for this Assessment Report:

1. The Project Principal Investigator (PI)
2. The remaining three co-investigators (Partners) who, together with the PI comprise the Primary Partnership
3. The Lincoln County Commission, residents of the Left Fork, and other relevant stakeholders
4. Future researchers, including others at West Virginia University and the Environmental Protection Agency, who might embark upon similar research Projects with similarly constructed research teams.

III. Methodology (Research Design)

This Qualitative Assessment utilized a non-experimental, case study-based research design. The research consisted of site visits, structured, audiotape recorded interviews of the four co-investigators conducted during July and August of 2006, and a systematic review of Project reports and documents. The audiotapes were transcribed using detailed content logs and then analyzed to identify references to the Assessment Goals (strengths and weaknesses of the research Partnership; communication problems within the research Partnership; recommendations to future researchers who might work in similar Partnerships). Where participants' comments were particularly telling or illustrative, they were included in this report.

This Research design grew out of the PI's desire to have each of the Partners interviewed by an outside investigator so that the emerging frustrations might be adequately documented and so that each Partner would have an opportunity to express his or her concerns. The primary research goals were to understand how Partners define and experience the Partnership, how the Partnership operates, what areas of the Partnership are succeeding, what areas are not succeeding, and to offer recommendations to future community/university Partnerships, based on the experience of this one.

Although this report is essentially summative in nature, it has the potential to be formative as well. The recommendations offered here could also be applied to this Partnership in order to address and perhaps resolve conflicts and frustrations.

Foundations

1. Descriptions and Definitions

The community/university primary Partnership examined in this report consists of four individuals:

1. Principal Investigator Ric MacDowell, of Lincoln County, who is responsible for overall Project coordination
2. Community Outreach Coordinator Nona Conley, of Lincoln County, who serves as liaison between the Project and residents of the Left Fork of the Mud River watershed community
3. Co-Principal Investigator Clement Solomon, of Morgantown, who is responsible for technical assessment and recommendations with regards to wastewater treatment and treatment systems
4. Co-Principal Investigator Tamara Vandivort, of Morgantown, who is responsible for technical assessment and recommendations with regards to water quality.

2. Background and Context

The community/university Partnership component of the Left Fork Project arose out of the wastewater Project itself—and out of necessity. The Lincoln County Partners lacked the technical and scientific knowledge and expertise of the Morgantown Partners. Conversely, the Morgantown Partners lacked the specific community knowledge and experience of the Lincoln County Partners. Nor did the Morgantown Partners have direct access to the people who lived in the Left Fork watershed—those who would be most directly impacted by this Project and upon whom the long-term success or failure of this Project would rest.

It is very possible that, owing to the circumstances that framed this Project, the tension Partners feel may have been, at least partly, built into the Project. Only one of the four Partners, Ric MacDowell, was involved with this Project at its inception, although his original role was as County Extension Agent, not as the Principal Investigator he has since become. Each of the other Partners, Co-Principal Investigator Clement Solomon, Co-Principal Investigator Tamara Vandivort, and Community Outreach Coordinator Nona Conley were brought in separately and at different times.

The development of the Partnership followed along this general chronology. Prior to 2003, Patricia Miller, of WVU Extension in Morgantown had submitted Federal funding proposals for two wastewater treatment Projects, one of which focused on Mud River, but had not received funding for either. Had a proposal been funded at that time, Ric MacDowell, as the County Extension Agent, would have been tangentially involved in the Project and would have assumed the role of community liaison. MacDowell knew the Left Fork community well because he had taught school there and, after the school

closed, continued to remain involved in the community through his role as Extension Agent. In 2003, Miller again submitted language for an alternative wastewater demonstration Project in Lincoln County. This time, the Project was approved by the EPA and submitted to Congress, where funding was granted.

Before the Project could officially begin, however, Miller's contract with WVU ended, leaving the Project without a Principal Investigator. This was a special challenge for the Project because Miller had both the science background and technical experience necessary for the Project. She also, through MacDowell's long history in Lincoln County, had access to the community of people who lived in the Left Fork of the Mud River watershed. MacDowell then stepped in to fill the role of Principal Investigator but, owing to his lack of background in science and technical matters, EPA asked him to bring in people with the credentials to address the science of this Project.

At that point, MacDowell was directed to the National Research Center for Coal and Energy (NRCCE), institutional home of the National Environmental Services Center (NESC). One of NESC's ongoing Projects was/is the National Onsite Demonstration Project (NODP), which specifically focused on the kinds of alternative wastewater treatment programs proposed for Lincoln County. MacDowell met with Clement Solomon, an NESC Program Coordinator and mechanical engineer who also had experience with alternative wastewater Projects and with NODP. Solomon indicated his willingness to participate in the Project and MacDowell began to move ahead, but then had difficulty getting Solomon to engage the Project (MacDowell, t1 s1, 362-394.).

MacDowell then initiated contact with Paul Ziemkiewicz, director of the West Virginia Water Research Institute (WVWRI), the "water quality side" referred to above. Ziemkiewicz introduced MacDowell to WVWRI Program Coordinator Tamara Vandivort, an environmental scientist with water quality expertise. EPA approved Vandivort's water quality credentials, but stipulated that the Project still needed to contract with someone specifically credentialed to address wastewater treatment and systems. At that point, Solomon was again recommended and Vandivort brought him into the Project. Together, Solomon and Vandivort possessed the credentials and experience necessary for this scientific aspects of this Project.

MacDowell then brought Nona Conley in as Community Outreach Coordinator. Like MacDowell, Conley knew the Left Fork community well. She had lived there, raised her children there, and one of her daughters had run a small grocery store there for several years. The connections that both Conley and MacDowell shared with the community kept them from having to go through a long period of trust building (Conley, t1 s1, 171-193).

Hence the primary Partnership, consisting of MacDowell, Solomon, Vandivort, and Conley, was formed.

3. Resources

The community/university Partnership component of this Project, perhaps because of the fragmented nature of this Project's beginning, does not seem to have had enough targeted resources devoted to the specific goal of creating, maintaining, or helping the Partnership succeed. In its original inception, with Miller as the primary actor, that level of attention to the Partnership would not have been necessary. But when the Project reformed around an unfamiliar set of Partners, it would have been helpful for the Partners to devote specific time, energy, and resources to the kind of relationship-building that would have cultivated a deep familiarity with each other's backgrounds, personalities, and working styles. That kind of familiarity develops best in frequent and regular face-to-face meetings, and although some travel was built into the Project, it seems to have been directed at bringing Partners together for task-oriented work and meetings, and not specifically for relationship-building or for addressing issues that arose as the Partnership proceeded. In lieu of this face-to-face time, regular Email and telephone contacts might have helped to solidify the Partnership, but there seems to have been a reluctance to devote time to those kinds of exchanges as well.

Other opportunities for relationship-building among the Partners do not seem to have been planned and when opportunities arose spontaneously (gathering informally before or after meetings, riding together when practical, meeting informally), it does not seem that Partners took full advantage of those opportunities (Conley t1 s1, 050-091).

Moreover, it does not seem that any means of regularly assessing and addressing developing issues, problems, or interpersonal conflicts was ever formally established. When problems began to arise, therefore, there was no framework for defining or addressing them within the Partnership.

Sub-Evaluations

4. Partnership Values (Determinations and Criteria)

Because this assessment is based on participants reporting their experiences and perceptions, the determination of whether or not the Partnership is of high quality is based on Partner interviews. This report assumes that a high quality Partnership is one that functions responsively, productively, and efficiently. Partners in such a Partnership respect one another and trust that each will fulfill his or her responsibilities in a timely and professional manner.

The criteria for determining the quality of this Partnership is based on what the primary Partners report in their interviews. Where appropriate, the experience of the researcher will be drawn on as well.

5. Partnership Process Evaluation

The community/university Partnership's design and implementation are both problematic. Those problems manifest themselves primarily along the lines listed here.

1. Paradigms, goals and expectations
2. Timeliness, responsiveness, and access to the community
3. Expertise and the sharing of information
4. Communication and communicative styles

Although some of the investigators are more frustrated than others, all seem to recognize, at least to some extent, that frustration has become a part of the Partnership.

1. Paradigms, goals and expectations

The Lincoln County and Morgantown teams have differing and conflicting Project paradigms, goals and expectations.

The Lincoln County Partners are more focused on the community aspect of this Project. Because the local community (those who live in the West Fork watershed) has had a long history of being either ignored or exploited, the Lincoln County Partners hope to have the Project's process serve as an opportunity to build trust, ownership, and leadership experience in the local community. They look for local leaders to emerge out of this process, leaders who can both address other current local problems and create proactive opportunities for the community in the future (MacDowell t1 s1, 092-124; Conley t1 s1, 218-251).

The Morgantown Partners, although they have substantial community-based project experience, have never before been involved in a project with this degree of community involvement or this direct a focus on building leadership in the local community.

Moreover, their scientific training keeps them more focused on the Project's technical aspects. Placing this within the stream of projects they have done in the past, they view this Project and their roles as opportunities to help a rural community improve its water quality (Solomon t1 s1, 141-183; 314-350). From that improvement, the Morgantown Partners hope to extend these kinds of water quality projects out into other, similar communities (Vandivort t2 s1, 069-131).

Both sets of Partners share the same Project goal of improving the local water quality then, but the Lincoln County Partners also have additional goals for the Project process: that the process of working together with the university and with local, state and federal governments to improve water quality will empower local residents, create local leadership, and build ongoing commitment and ownership in the community after the Project has ended.

2. Timeliness, responsiveness, and access to the community

The Lincoln County and Morgantown Partners differ significantly on this issue. The Lincoln County Partners, being in close proximity to the Left Fork Community, are often asked questions by community members (or have questions themselves) related to the science of the Project which they then pose to the Morgantown Partners. The Lincoln County Partners have grown frustrated with the amount of time it takes them to get answers to these questions and have grown particularly frustrated with what they perceive to be a lack of responsiveness, particularly on the part of one Morgantown Partner. (This researcher also experienced a pattern of delayed responsiveness from one partner.) They express the concern that this pattern of delayed responsiveness has had the effect of throwing off the project timeline and could potentially alienate the community from the Project (MacDowell t1 s2, 171-194; Conley t1 s2, 356-380). The Lincoln County Partners are also concerned that the Morgantown Partners have not spent enough time in the community to understand and appreciate what community members have to offer.

The Morgantown Partners believe that the Lincoln County Partners have an unrealistic sense of the project's timeline (Solomon t1 s2, 310-343; Vandivort t1 s2, 112-146). They have grown frustrated with what they perceive to be an inordinate number of unnecessarily detailed questions directed to them that ask for information that may not be relevant to the day-to-day community understandings of the Project (Solomon). They also express the concern that these requests for information end up delaying the Project. One Morgantown Partner also expressed concern that because the Lincoln County Partners had access to the community in ways that the Morgantown Partners did not, the fact that the Lincoln County partners acted as intermediaries seemed to have the effect of distancing them (Morgantown) from the community (Vandivort t1 s2, 313-333).

3. Expertise and the sharing of information

The Lincoln County Partners believe that the Morgantown Partners are hesitant to openly share their expertise, especially their knowledge base, with the Lincoln County Partners or with the Left Fork Community. They repeatedly express sentiments like these: “They’ve come in a manner that kind of set it up that clearly they are the authorities, the experts, the ones who have all this wisdom to impart...” (Conley t1 s1, 329-358). Lincoln County Partner Ric MacDowell shares that perception, adding that it has played out in Emails as well: “We’re the experts, we’re doing this work, stop asking all these questions. We’ll tell you the stuff when we’re done” (MacDowell t1 s1, 231-255). For their part, the Morgantown Partners see many of the requests for information, especially those that address very particular aspects of science or technology, as expressing a lack of confidence in their expertise. Morgantown Partner Tamara Vandivort expresses that frustration succinctly: “...the frustration level on our end is just the lack of trust that we have done this a zillion times, we know what we’re doing, we’re trying to help this community” (Vandivort t1 s2, 245-274). Morgantown Partner Clement Solomon sees some of the requests for more detailed information as unnecessary: “So we also overrate information delivery to the stakeholders. I’m not saying withhold information, just give enough and no more” (Solomon t1 s2, 112-149). This is an especially thorny—and circular—problem because Lincoln County tends to see the issue as one of privileging scientific credentials over the community’s need for and ability to use information, whereas Morgantown tends to see Lincoln County’s desire for information as a lack of respect for their scientific expertise.

This is a very problematic area of the Partnership. Although the concerns of the Morgantown Partners are not without merit, the intensely community-centered nature of this Project seems to point to a critical need for information. When Lincoln County asks questions that Morgantown either does not answer or takes considerable time to answer, the Lincoln County Partners find themselves in the untenable position of being unable to answer the questions put to them by Left Fork residents. This is problematic for several reasons: first, if questions are not quickly resolved the project momentum falters and distrust begins to set in; second, without timely answers to questions the community is placed in the role of passive receivers rather than active sorters of information, which undercuts the goal of empowering the community and developing proactive local leaders.

4. Communication and communicative styles

In some ways, the tension at the heart of this Partnership revolves around communication and communicative styles. The Partners do not agree about how, how often, or what information they should communicate. Although the Partners have agreed on a timeline of two weeks for answers to questions, the Lincoln County Partners remain frustrated that they do not have the kind of access to information that they feel they need. That lack of information puts them in the position of having to guess what steps they should be taking in order to continue moving the project along. Moreover, when complications enter the process—the need for additional testing, for example—that delay the Project, the Lincoln County Partners do not receive enough information to adequately answer the questions then put to them by community members.

At very deep levels, Partners do not share the same goals; they do not even define the Project in the same way (Conley t1 s2, 356-380). All of the other issues around which there is tension—paradigms, goals, expectations, responsiveness, timeliness, access, expertise, and the sharing of information—are, at heart, issues of communication. The Morgantown Partners seem to experience the communication problems as challenges to their experience and expertise and, by extension, their authority. The Lincoln County Partners seem to experience the communication problems as disrespect and disengagement, an imposition of external authority that patronizes and disregards the local expertise and alienates the community from this Project. Keeping the lines of communications open and honest, and the subjects of communication realistic and relevant, seems to be critical to the success of Partnerships like this. In a project that is as community based as this one, the willingness of all to continually examine everything from Email exchanges between Partners to behavioral cues when out in the community seems especially important (MacDowell t1 s1, 031-060).

6. Exportability

At this point, it seems that the primary elements of the community/university Partnership that might make it potentially valuable to others who wish to do similar work are admonitory in nature: this particular Partnership, in both design and delivery, might best serve as an example of how Partnerships do *not*, rather than do, work well. Based on the experience of these Partners, researchers who wish to engage in similarly collaborative projects but avoid the frustrations that have arisen in this one should take care to ensure the following:

1. That all Partners are committed to ALL of the project goals and each aspect of the project process.
2. That all Partners know and are willing to accept their specific responsibilities in the project.
3. That all Partners are committed to the same specific timeline.
4. That all Partners agree on what, how, why, and when information will be shared.
5. That all Partners understand and are willing to work with each other's working and communicative styles prior to the start of the project.

Conclusions

7. Recommendations and Explanations

This assessment does not conclude that the problems in this particular Partnership are emblematic of community/university Partnerships. That finding would require significant additional research which investigated this particular Partnership more deeply and compared it with other, similar Partnerships. But this report can safely conclude that this particular Partnership might have been, and might still be, more successful if the following points were lined out and agreed to by all of the Partners:

1. Project goals
 - a. What explicit and implicit goals do each of the Partners bring to the Partnership and the Project?
 - b. How (specifically) will each of the Partners work to support each other's goals?
2. Project responsibilities
 - a. What are the exact responsibilities to which each Partner agrees?
 - b. How will failure to meet those responsibilities be addressed?
3. Project timelines
 - a. What, specifically, do all Partners agree to with regards to a reasonable timeline?
 - b. How will deviation from that timeline be addressed?
4. Information sharing
 - a. What level of information do the Partners agree to share?
 - b. What information will they not share?
 - c. What framework will they establish for addressing unanticipated requests for information?
5. Communicative problems
 - a. How will the Partners become familiar enough with one another's styles to learn how to read each other properly?
 - b. When communication problems arise, how will the Partners address them?

8. Reporting and Follow-Up

This report and its accompanying materials shall be delivered to Ric MacDowell, Principal Investigator, who shall determine further distribution.

9. Meta-evaluation

Although site visits and Project reports and documents were part of this non-experimental, case study-based Qualitative Assessment, the bulk of the Assessment was based on interviews of the four primary Project Partners. As such, the strengths and weaknesses of the research Partnership; communication problems within the research Partnership; and recommendations to future researchers who might work in similar Partnerships are drawn primarily from the experiences and reflections of the Partners themselves.

The value of this Assessment then, based as it is on the subjective experiences and reflections of the Partners, hinges on the ability and willingness of all partners to look clearly and reflexively at the Partnership itself and their roles as Partners. For the most part, Partners seemed quite committed to the Project and the process, although not all seemed to share the same level of commitment to the process, nor did all seem equally willing to look reflexively at their own roles in the Project. To the extent that all project Partners were willing to share openly and honestly, this Assessment did document the experiences, perceptions, and frustrations of the primary Partners. These interviews did reveal how the Partnership operated, what areas of the Partnership were succeeding, and what areas were not succeeding. It also offered recommendations to future community/university Partnerships, based on the experience of this one. A more involved assessment—one that used survey information, participant observation and a wider range of interviewees—would offer more specific data, more concrete assignment of responsibility, and more precise recommendations for improvement.

Although this report has the potential to be formative as well as summative, the frustrations expressed in this Assessment seem to have become fairly entrenched. Unless all of the Partners are willing to look honestly at the Partnership itself, and recommit themselves to all of the goals of the Project, the Partnership will probably continue to be defined and limited by these frustrations and end when this Project is over.

APPENDICES

- A. Interview Questions
- B. MacDowell Interview Tape Log
- C. Conley Interview Tape Log
- D. Solomon Interview Tape Log
- E. Vandivort Interview Tape Log
- F. March 2006 Quarterly Progress Report
- G. June 2006 Quarterly Progress Report

APPENDIX A: INTERVIEW QUESTIONS

Left Fork of the Mud River Decentralized Wastewater Demonstration Project Interview protocol

I. PROJECT DESCRIPTION AND GOALS

What, broadly defined, is this project?

How do you describe this project to community members? Academics? Others?

What are the relevant terms? What are the words that someone would need to know in order to work on this project?

What is your role in this project?

How did you get involved in this project?

Why did you get involved in this project?

What are the stated goals of this project?

Do you have other goals in addition to those for this project?

What is the most important part of this project?

II. PARTNERSHIP ASSESSMENT

What is the greatest strength of the community/university partnership?

What are the other strengths of the working relationship?

What are the differences in style between the partners?

How would this be different if it was purely a community project?

How would this be different if it was purely a university project?

In your mind, how do community members see you? Your role in the project?

In your mind, how do community members see the university participants? Their roles in the project?

In your mind, how does the university (and there could be many constituencies within that term) see the community? Community Participants? Their roles in the project?

What are the particular rewards/challenges of working with low income communities?

Going into this project, what did you think the greatest challenges would be?

What have turned out to be the greatest challenges?

What challenges have you encountered in this project that you did not anticipate?

What are some of the things that surprised you about this project?

What has frustrated you?

What are the rewards for you?

What are the particular challenges of working in a community like yours (describe)?

What are the particular challenges of working in a university setting like yours (describe)?

The university puts forth community engagement as a major goal. Is it a realistic goal? A valuable one? What do you think they mean by “engagement?” How do they support/ hinder the engagement they call for?

What kinds of messages have you gotten from your supervisors and university administrators about WVU's commitment to engagement with communities?

How are those messages communicated?

III. QUESTIONS SPECIFIC TO THIS PROJECT

TECHNICAL:

What do you predict will happen with these systems once they're installed?

If low income status is a criteria for selection, how will you ensure that installed systems will be maintained?

Why do people who want one of these units say that they want it?

How do people benefit from having the system? How do they describe that benefit? (altruistic, financial, legal, personal, etc)

How do people respond to the information about E. Coli & Coliform bacteria?

Have the contaminants showed up in wells?

Do people realistically recognize the problem? Do they understand it? Do they exaggerate or minimize it? Are they invested in finding solutions?

PARTNERSHIP:

How productive are the community meetings?

Has the core group of participants shifted in any significant way since inception?

How different are the Community and Morgantown matrices (criteria for determining who gets)

What do you think is at the core of those differences?

Why do local people/communities need to be involved in the decision making?

The Quarterly Progress Report describes “difficulties encountered” with the project partnership. To what do you think the following difficulties refer?

- 1) “Conflicting ideas on how projects like this deal with communities”
 - a. How should projects like these deal with communities?
 - b. How should projects like these NOT deal with communities?
 - c. What are the differences in expectations between the partners?
- 2) “We are not all in agreement on where to give information to communities and where to withhold it for fear it may cause false expectations and confusion.”
 - a. Examples?
- 3) “Keeping lines of communication open is not easy but it’s critical”
 - a. What kinds of communication difficulties have you experienced?
- 4) “Other agencies are supportive, but this project is just a small piece of what they’re doing.”
 - a. How do your other responsibilities enhance/conflict with this project?
 - b. How do other agencies support/undermine this project?

(From Conference proposal). What strengths, knowledge, and insights does this local community have that the university might not have?

What skills and knowledge does the community have that will guarantee the success of the project?

With regards to the literacy challenge, how does that affect community members ability to participate in this study and to understand the science involved?

How can a project like this transform the university?

IV. PARTNERSHIP RECOMMENDATIONS

Is this partnership necessary?

Why does it need to be community based?

If you had it to do over again, what would you do differently?

What would you recommend to others that has worked well for you?

What would you caution others against?

What would you follow these statements with:

WHEN WORKING IN A COMMUNITY LIKE THIS, DO

WHEN WORKING WITH UNIVERSITY PARTNERS, DO

WHEN WORKING ON A PROJECT LIKE THIS DO

What else would you recommend; what has gone well.

What would you follow these statements with:

WHEN WORKING IN A COMMUNITY LIKE THIS, DO NOT

WHEN WORKING WITH UNIVERSITY PARTNERS, DO NOT

WHEN WORKING ON A PROJECT LIKE THIS DO NOT

What else would you NOT recommend; what has not gone well.

How could the university do a better job supporting your work?

How could the county do a better job supporting your work?

How could the community do a better job supporting your work?

How should the university work with low-income communities?

V. DEFINE THESE TERMS:

Community (generally)

This community

Community Engagement

Community Involvement

Stakeholders

Collaboration

Other relevant terms?

APPENDIX B: MACDOWELL INTERVIEW TAPE LOG

**LEFT FORK OF THE MUD RIVER
DECENTRALIZED WASTEWATER DEMONSTRATION PROJECT**

AUDIOTAPE LOG / INDEX

Date: 07 July 2006

Project: Qualitative Assessment: Left Fork of the Mud River Decentralized
Wastewater Demonstration Project (Wall Service Award Project)

Tape No. QA-LFMR-RM-070706

Interviewer: Elizabeth Campbell

Interviewee: Ric MacDowell

Address: PO Box 438; Hamlin, WV 25523

Location: Lincoln County WVU Cooperative Extension. 406 Market St, Hamlin
WV

Telephone: 304.824.7911

Consent: Attached

Summary description of interview context and content:

NOTE: WHAT FOLLOWS IS A VERY CLOSE TRANSCRIPTION OF THE AUDIOTAPED INTERVIEW BUT IT IS **NOT** A COMPLETE, WORD FOR WORD TRANSCRIPTION. QUOTATIONS SHOULD NOT BE DRAWN FROM THIS DOCUMENT UNLESS THEY ARE SPECIFICALLY MARKED WITH QUOTATION MARKS. TO PULL COMPLETE QUOTATIONS FROM THIS INTERVIEW, RETURN TO THE AUDIO TAPE AND TRANSCRIBE DIRECTLY FROM THE TAPE. \

Equipment:

Audiotape Recorder: Marantz PMD 430 cassette
Microphone: Electro Voice MC 150 (omnidirectional)

Tape 1 of 2: Side 1 = 30 minutes; side 2 = 30 minutes

Tape 2 of 2: Side 1 = 30 minutes; side 2 = 6 minutes

- | Counter # | Summary |
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| 000 | Start of Interview. TAG. Setting up microphone. BC: Let's start with project description and goals. How would you define this project to someone who knows nothing about it? |
| 016 | RM: I would first have to be honest and fair to EPA Goals (phone rings) and then talk about secondary goals that aren't supported by EPA. This is one of 6 nationally funded projects that address alternative wastewater projects. The goals are to install alternative units, to demonstrate their effectiveness. So this project, the goal right now is to assess where the E. coli hot spots are in this watershed and then use that as one of the things to drive this project. |
| 035 | RM answers phone, tape pause. |
| 037 | Tape resumes. Goals for this project. Definition. EPA is giving us money to put in this units and assess their effectiveness on the health of the watershed. BC Have you installed one of these units yet? RM NO, the goal is now to get it in this year before bad weather sets in. |
| 051 | BC Back to the goals of the project, How would you describe it to community members as opposed to university members. RM I would talk more about the health issues, and health of creek and stream, define E. coli, what it does to people's health, that we found a lot in this watershed and it comes from poor water treatment. In the academic community I might stress a bit more the scientific research, that science will drive this decision. And that's what EPA is funding. But there's another thing that's happening that, for me, is equal to or greater than the EPA part, and that's what happens to this community. |
| 079 | I taught in this community from '72-'74 and one of the things that people said before they consolidated was that this was the school they sent teachers to when they wanted to get rid of them. No resources, no supplies, things didn't work. And the school was eliminated under consolidation. I've always had a connection to this community. And it's always been very disenfranchised, not listened to, not much power to shape their own lives. So for me it's important that they participate in this decision process, |
| 092 | One of the interesting things about this project is what the process will do for the community and how it develops leadership and how making decisions about this will empower them to make decisions about other things. Not part of the original proposal, added after the grant began. Not part of the EPA guidelines, but an important part of what will be the decision making process. The grant itself was a four or five sentence |

paragraph that got entered into the budget, then after the money was funded the grant got written. So all of the details were written out after the money had been given.

- 124 BC: What is the most important part of this project? RM: For me, another goal is that WVU is making much noise about community engagement. Especially in southern WV there's the perception that WVU is way up there, doesn't care about this part of the state. And so we can demonstrate that WVU does care about southern WV, but I also think we can learn some important lessons about how the university can do a better job engaging local communities. But that goal's not written down anywhere.
- 146 BC: What, so far, what has been the greatest strength of this community-university partnership? RM: For me, we've held the line so that our partners and collaborators in Morgantown are valuing the community more than they otherwise might. BC: How's the community benefiting other than the science? RM: It's hard to separate me out from the University. But I think the community sees me as WVU differently than they see Tammy & Clem as WVU. In part because they know me, but also because of our radically different styles. Part of the dilemma is that when we talk about WVU and the community, where is that? Ric? Tammy & Clem? It's a matter of proximity.
- 176 The problem in perceiving Extension Agents as members of the university community. It's a problem for all involved. The Agents are the face of the university, but most people in the community don't think of Agents as University members, faculty, as academics. RM: I do think that even though we want WVU and Extension to be seen as part and parcel of the same thing, but it doesn't work that way on the ground. Even if people know about the connection, they don't think about it. BC: This is an assumption that I've brought in as well, that the University is something separate from you. RM: Sometimes I talk about WVU and it's not me, it's Tammy & Clem. So I contribute!
- 202 BC: How would you fix that? RM: I've been trying to think about that. It might have helped from the get-go if Nona and I, before the project even started, had spent some time getting to know Tammy and Clem outside of this project, gone on a retreat, done some fun activities, that might have helped. One of the challenges all along has been that at our end, Lincoln County, we don't have the technical experience to make this grant happen. I've got a BA in English and a Master's in Secondary Ed. I'm not trained in Water Quality and I'm not a Sewage Engineer, so we depend on Tammy & Clem. They were necessary before we could even get final approval from EPA, we had to have the credentials to tackle the scientific end of it.
- 231 But that's been a dividing factor, this separation of areas of expertise has played into this sense of, "often with academia there's a 'we have the answers and we know what's best kind of mindset. And we've come up against that in this project.'" Tammy and Clem are the experts, that they have the expertise. And it's even played out in some Emails, "We're the experts, we're doing this work, stop asking all these questions. We'll tell you the stuff when we're done." And that, if we would follow that advise it would make it very difficult for us to engage the community in this process. My guess is that that's the

standard way that Tammy and Clem work in most of their projects. Probably true in 99% of the time that academics “engage” communities.

- 255 RM: We went to a statewide watershed kind of meeting and took some community people with us, and there were no other community members there. And we found out that no other projects are having as many community meetings as we are. No other project is as involved. BC: Is the desire for community involvement on your part running into resistance or is it an unrecognized creature? RM: They resist. My guess is that I drive them crazy because I ask so many questions. We’re at the point now where we’ve done a lot of water samples. And I might ask them to explain to me the relationship between this set of sample and that set, what might be causing these high readings, how will we use this information to make our decisions? And shouldn’t we put a site in here to test this house, and how do we know if deer are having an effect on the readings? And I think it gets in the way. And often I’m asking the questions that community people are asking or will soon be asking. All information gets shared by the community.
- 289 So they look at this information, and they see that we’ve done 7 readings at this location and 5 have been really high and two have been really low, what does that mean? It seems like we need to figure out what that means in order to make our decisions. BC: When you say what this means, are you looking for an explanation? Like, a reading taken immediately after someone flushes is unnaturally high, or it rained a lot the day before? RM: That’s the level of information you’re looking for at this point. So my guess is that Morgantown thinks we’re constantly second-guessing them and being critical of their methodology. BC: What indication do you have of that? RM: The kind of thing where they’ll say, we’re the experts; we’ll tell you what that means when we have all the data.
- 307 BC: You said something earlier about a difference in style. Is this a scientific method kind of thing, you can’t say anything until the data’s in? RM: I don’t know. I’m not sure. I guess what I keep wondering is, are we just gathering data because that’s just academia? Get as much data as you can? And if we’re doing that, shouldn’t the data be helping us make decisions? It doesn’t seem like a lot of the data we’re collecting is going to be very helpful. For example, rainfall. We’re gathering rainfall data. Total dissolved solids, nitrates, turbidity, stream flow, pH, temperature. We’re at the point now that we’re looking at critical areas and the only factor we’re looking at is E. coli. So if we’re gathering all this other stuff, what are we going to do with it and when are we going to do something with it. And again, the Morgantown, Lincoln County thing. I am so glad we retained the money for the sampling. Nona and I go out and take the samples.
- 335 We were trained how to do it so we take a lot of the samples. They come down and take some, but we take a lot. Originally they were talking about hiring that out. So I can just see how a grant like this, the money would have gotten spent on the scientific research and it would have disappeared. We’ve managed to hold in the vault this \$450,000 that’s only going to be used to put the systems in. BC: How much do the systems cost? RM: That’s a Clem question that he’s hesitant to tell us. He’s hesitant to set up expectations in the community. So he doesn’t want to give numbers. BC: Why is there not a system this month? RM: Because we don’t have enough data. Another problem, to be fair, is

that 25% of Clem's time is on this project, 20% of Tammy's, a little over 50% of mine, 60% of Nona's. So we have more time going in on this end than Morgantown does.

362 BC: Let me move on, I can see where we're going here. So when you started this project, what did you think the challenges would be? Think back now, not what you've actually encountered, but what you thought you'd encounter. RM: Well, for one, I didn't know anything about water quality and sewage, so I was a little nervous about being the PI because I didn't have information. I was also worried about our relationship with NRCCE (the WVU contract firm, National Research Center for Coal and Energy). It's a soft money thing. One of my concerns was that we knew we needed technical help and these seemed to be the natural people to work with, but it was very hard, took us a long time to figure out how we were going to work with them. I could not get Clem to follow up after our initial contact. We had a really good conversation, he seemed real excited about it, but after 8 Emails I couldn't get a response from him. So I left his unit of the NRCCE and ended up working with people on the Water Quality side. That's when I met Tammy. And she seemed great. But Washington wanted a sewage expert.

394 So Tammy brought Clem back in. So there was this worry about are we going to have this good collegial, collaborative relationship and are we going to get answers when we need them. BC: So early on you had a glimpse of some of the things that result in why there's no system this month. RM: Yes. BC: And did Tammy have better luck, I'm thinking again, proximity, did she have better luck bringing Clem in? RM: Tammy's supervisor thought that everything would be fine. And Tammy thought that everything would be good. But as we got to the point that we needed someone who understood the sewage part and the engineering part, Tammy—

407 END SIDE ONE, TAPE ONE

BEGIN SIDE TWO, TAPE ONE

000 —I've had some problem getting Clem to be responsive and she said, you don't have to worry, we'll make sure those things don't happen. BC: But those things have happened. RM: Those things have happened. They're still happening. BC: Are those things the rule or are they occasional and frustrating exceptions. RM: I think they're the rule. Honestly, I'm at the point now where I'm trying to figure out how I can do this without those folks. And I can't, I can't do it without Clem. I can do it now without Tammy, because I think I understand this stuff enough. And yet, if we go back to this University-Community collaborative, it could be so much easier. And it could help the community.

031 The kind of roadblocks I keep running into...If it were just the university doing this without the interface of a county extension person, there wouldn't be any interaction with the community at all, I'm afraid. One of the things about style, is that each time they talk at community meetings, they've come three times, presented twice, but each time they

stand up. The first two times they did PowerPoint presentations. Now, we're meeting in a local volunteer fire station. They didn't dress too formal, they dressed okay. And I think they have both had experience working with communities, but I think its more, here's the information, here's what I suggest you do, rather than what do you think it means, what kind of questions do you have? It doesn't seem that there's an attempt to foster interaction, share ideas.

- 060 The community has a lot of information. When we started getting the E. coli results back, we'd look at a site that was really high, and they'd say there's a guy with a whole batch of horses that lives up that hollow. Or this guy has cows, that's why the readings are so high there. BC: So it wouldn't do a thing for E. coli levels there if you attached one of these units to a house. RM: Exactly. So they had that kind of information and they could suggest you really ought to go up here and test here. But I don't think they'd stand up and say those kind of things unless they thought they were important, their information was valued, they were equal partners. BC: Would you attribute these differences to differences in personality, of the individuals involved, or is it the culture of the institutions.
- 083 RM: My guess is it's both. I know I act in a certain way because of how I am grounded, what my beliefs are, but I do think there's this university kind of view, and probably NRCCE because it's set up as an agency that gets money and provides services, is even less likely to have a community engagement model. Both Tammy and Clem are Academic Professionals, APs. They're faculty, but not tenure track. I don't think they teach. They're researchers of a sort, soft money. And I don't know if we would have found traditional, tenure track faculty people, if we could have found the expertise, if it would have been different with those kinds of academics. And so maybe the failing at the beginning was that Extension itself was not well enough tied to the University to even know how to make this happen.
- 121 It seemed like this was the only show in town we could do to. BC: There was no Water Resources Professor with graduate students. RM: You would think so. When we did the initial findings that showed E. coli problems in this watershed it was a professor from Ag and Forestry brought students down that did sampling. BC: Why wasn't that professor involved in this project? RM: I guess we just got directed to these folks. And of course Tammy and Clem are both part of, they've worked on EPA projects before, they're sort of connected. BC: And I'm sure there are territorial issues in the university as well, things that certain people are supposed to do. RM: I'm sure there are.
- 143 Another thing that was one of my mistakes in the beginning, of course I'm grounded in this Extension model where you share everything, information. Early on, they wanted to see the budget for the project. And that became a battle, over the budget. And I think if I was going to do this again I'd be very hesitant to show those numbers. They came back with their ideas and they wanted a lot more money than they got in the end. And so money became a battle from the get-go, even before we were butting heads about science, or goals, or methodology, or how we move to the next point. We started out arguing about the money. BC: If they'd had their way would it have been more than 25%, 20%?

RM: Yes, initially it was. BC: Is there some sort of passive aggressive resistance going on? Or did that set the stage for something else? Because it sounds like you were having troubles even before the project really started. RM: I don't know.

171 BC: What has frustrated you about this project? RM: (laughs) You mean I haven't answered that question? I guess it seems like Morgantown has so much knowledge that they could have shared with us, and that lack of sharing has made us be constantly second guessing in order to move the project forward, rather than waiting. We just didn't feel we could wait with the community. It's not going to work if you have a meeting and then you say well, we'll see you in two months. Momentum. So that's been frustrating. And feeling that we think we know what's happening and that we're moving in a direction, and then all of a sudden something changes. Now Clem wants to do dye tests, and I don't understand why. I don't understand how that's going to impact the decision either of where a system goes or impact how we evaluate where we put a system.

194 So all of a sudden now there's this other thing we've got to do before we can make a decision. And that kind of thing happens more than I wish it would. And it slows things down, interrupts momentum. And of course the community says, what's going on? Why do we have to these dye tests now, I thought we were going to put in a system in in July. BC: Can you envision now, looking back, a meeting at the beginning of this project when all kinds of things were defined and lined out and these problems wouldn't arise? Or do you think these problems arose because each of you were doing this project for the first time? RM: That may be a lot of it. Certainly the paradigm difference is critical. If I did something like this again I'd be armed with knowledge about the kinds of questions you've got to ask, the ways not to get trapped in these little boxes that keep you from moving the project.

218 BC: So if they had said in the beginning, we'll shoot for July but we might decide in July that we need more tests and that will delay us till the end of the year, would that have made a difference? RM: I think so, although they certainly have always said don't hold us to this. BC: If they had said, we need to do dye tests because ____, would that have helped? RM: Yes, and then when I said I still don't understand, explain this a little more, that would have helped. Because then I would have been able to explain to the community and to the commission why this was standing in our way.

234 I don't roll over as easily as I did in the beginning. BC: What's been rewarding about this project? RM: The best thing, without a doubt, has been the community. The fact that people have stuck with us. We've got a core group of 15 who come to all of the meetings, who are just there. And half of these people are not the poor, poor people in the community. And so they'll never get a system of their own. And so they're doing this because they care about their community. I mean, that's what you want to happen in the world and here it's happening on a small scale. The other part is that I feel like I've been on this parallel learning curve, with the community, and as I get this information and share it, often the questions that they ask are the ones Nona and I have been talking about between meetings. So it's encouraging to see people thinking critically about this project. .

- 265 BC: Do the people who won't get a system know they won't get one? RM: I think they know. We might get 60 systems if we stretch this money. Or maybe we'll stretch some out to fix or improve existing systems, some more "middle class" people might benefit that way. BC: Why do you think those people are doing this, if there's no clear and guaranteed direct personal benefit? I've heard people talking about cleaning up the creeks and streams, and that one of the results of this project is that the water will be cleaner. BC: I see that as a purely altruistic thing, that they're not getting anything out of this. RM: Right, but their kids might be playing in it, or their grandkids. BC: So is that what motivates them, or is it a community pride thing? I'm going to ask Nona that, why are people doing this. RM: That would be good and if we can go to the next step, after this study is a community study, where you're asking community people questions.
- 288 BC: What happens at these meetings? RM: I pretty much run the meeting. Nona and I talked early on about does it make sense to give this to someone else. And she felt that it really didn't. And I was well enough to keep the reins. People just come together, the meeting doesn't really start till 15 minutes late or so, it's kind of social at first. Almost always there's some paper handed out. Here's the latest results, studies, percentages. We spent a year or so developing the communities criteria for deciding who gets a system, the matrix. We spent a long time on that. There's door prizes, Nona brings things to give away. We usually have drinks and snacks. BC: So it's essentially an ongoing conversation. RM; Sometimes questions come up and it's my job to get answers. BC: How do you tell them you have trouble getting answers. RM: At the beginning I was hesitant to say much more than "I don't know the answer." But it's pretty clear now that there's tension, obstruction, that we don't always get the answers we want from our collaborators.
- 320 BC: In terms of the stated goals of these community/university partnerships, to improve relations, I've seen that happen but it seems more often I've seen these partnerships reinforce the differences that were already present, reinforce the ideas, how ignorant community people are, how arrogant university people are. How do you think this partnership has worked out so far? RM: One answer is how the community sees me, as part of the university or as Rick, the guy who used to teach at the Martin school. I don't think they see me too much as part of the university, so I think part is that the stereotypes that you were talking about, I certainly have grown to see the amazing amount of knowledge and intelligence that's in this community, it's sort of made me even more of a believer. I mean give them information, and ask them what they think they're going to give you good stuff. But the last time Tammy and Clem were down the folks at the community meeting were much less hesitant to ask hard questions and ask them again if they didn't get answers. BC: What kinds of hard questions? RM: Why aren't we going to have a system in July? When I said to Tammy and Clem, we've got to move if we're going to do this, they said well that's the reason we didn't want to say anything, Ric. This is why you don't stay stuff to people, you get their expectations up, it's always better to be general.

354 I said well, we've got to go back and explain to the community, they do have some expectations. So I had to tell the community first, that July won't happen. BC: Did Morgantown come up with a matrix too, and is it different? RM: Well, that's a great question. One of the things that drives me crazy about this is that from the get-go, when we first starting talking about this, the community concern was the decisions would be arbitrary, they'd be made not by Morgantown but by the commission, somebody's uncle, etc. So we were adamant about telling them you're always going to be part of the decision. You may not have the last word but you'll be part of the decision. Everybody's going to understand why it went here and not here. And yet it seems to me with Morgantown, I can't understand why they're making their decisions. The last time they came down (June), after we sent them the breakdown of the thirty families that filled all this out, it was pretty clear when you looked at it that there were certain areas where those families lived. But Morgantown came down with the idea that where the first systems should go were two different areas. Not the same areas that the community matrix had led us to see. And it was so instructive to me about this whole process. My guess is, and I'm not sure, that their model is they make the decision, they're the scientists. Based on the research and technology you should put it here and they're used to communities just saying OK.

390 I don't see it as being very scientific. BC: Is there some correlation between the highest levels of contaminants and their designations for where to put the systems? RM: I can see how they decided. BC: But it doesn't have any relationship to what you gave them for the community's decision. RM: Right. So it's real interesting, if you look on the map where Dogbone is (looking at map), at 7, 8, & 9, it's had unacceptable levels. But it's at a juncture of where creek is flowing into the fork, there are no houses——

405 END SIDE TWO, TAPE ONE

BEGIN SIDE ONE, TAPE TWO

000 ——so they came down thinking that one of the best places to install would be inside of that triangle, at that juncture. But nobody lives there, there are no homes there. BC: How did they respond when you said nobody lives there? RM: They just said, Oh. BC: So they probably either didn't look or look deeply at what – RM: Exactly, oh for sure. So part of me thinks we have two separate tracks going here, what we're doing in the community and what they're doing up there. And we're just ships passing in the night. They made their decision based on the E. coli readings. But we made our decision based on the community matrix which included E. coli but it was more that that too.

033 BC: And that was low income status, high E. coli, number of people, participation, early sign up, willingness to contribute, that actually raises another question for me. Having worked in well intentioned but poor communities, if being low-income is a criteria, how

will you ensure people maintain gin the system. RM: That's a whole other question we haven't figured out yet. Part of the dilemma is that at our end we still don't know what the systems are. And how much they might cost to buy, to maintain. Now Clem, again I can understand that he doesn't want to get held down to \$13.72 per month, he's generally saying it could cost up to \$35 per month, it might not be that much. BC: Do the systems exist? RM: Yeah. There are all sorts of different kinds of systems, and that's Clem's expertise.

066 And that might be why turbidity and all that other stuff comes it, it could be related to kinds of systems. RM: I don't know. BC: But knowing that would help. RM: It would help to understand. Because if those things aren't going to be factored in, let's stop spending the time and money testing for them. Let's use that money to get another three systems. BC: Back to the differences on the matrices, what are the clear differences? RM: I haven't see their matrix. BC: But if you had to define what was philosophically at the root of those differences, what do you think they might be?

084 RM: I don't think I could because I don't understand what they're doing well enough. Again, it takes us back to that grounding kind of difference. I still don't understand. BC: Stepping back, if you had to put yourself into the mindset of the folks in Morgantown, imagining how they might see it, how do you think they might see the local people enhancing this project? It's a twofold question, enhancing, complicating, so it might be easier to talk whichever one of those comes to you first. And I guess we need to include you as a community member here, because it really doesn't sound as though they've had enough involvement here for them to have bridged the differences yet, especially if they're not even looking at the stuff the community sends up to them.

109 RM: They could probably name the county commissioners. And some of the community people, or at least recognize faces. BC: So it's not fair of me to say they don't have a relationship at all, they have some relationship. RM: Right, and Clem is very personable. He has definite people kind of skills, but the question you ask about what they see about what the community people bring to the table. I think probably they might say there are some community people could contribute financially, and some have good relationships with their neighbors so they could get people to agree to a cluster. BC: So practical, logistical. RM: I mean we have agreed on a community committee of nine people that we eventually there will be a couple of alternatives put before this committee, this for the first system, or this, or this, and the community committee would make that decision. And then it would go to the commissioners for approval. BC: And is Clem okay with that? RM: Yes. I mean I think so.

149 And the other part, the things that are standing in the way, my guess would be there's sort of a fear, what is Ric telling these people and are they going to not cooperate with us. I think it's more vis a vis my relationship to Morgantown and to the community. And that's where the challenges are.

163 BC: In your wildest dreams, knowing what you know about community and university, when you were envisioning this, if this project had realized it's full potential, how could

it have transformed the university? RM: one of the things I hope will come out of this is there will be some suggestions about how you can do a better job at the university level relating to the community. So that administrators and faculty members and technocrats would think about okay you really need to not do these kinds of things, and you really need to do these kinds of things, there are certain key kinds of things about respecting and valuing folks and encouraging people to participate that are just critical. And that might take a long time before you move on to the next step. But that's what's going to make or break you.

184 BC: I'm going to move on. What would you follow these statements with? When working in a community like ours DO NOT__. When working on a project like ours DO NOT __. Let's start with community first. RM: Ok. Do not assume that you can come down just a couple of times and that you can have a relationship with people and that they'll trust you. Do not rely on PowerPoint. Do not stand up talking to people when you're around a little table Do spend time in the community. It's amazing, it's like they really spend very little time. When they were down the last time they spent two days in the community but we got into the watershed probably at 10:00 and they were out of there by 1:30. They were in a hurry. Do make clear how you're going to make decisions. I don't understand it yet, I still don't understand it.

215 BC: Do you think there are challenges, and now I don't know West Virginia well yet, but I am starting to think of it in some ways like an African country, like a colony. And colonial people tend to have extraordinary distrust of authority, with very good reason. And so I wonder how much the challenges have to do with that distrust, does a community like this require extra time and energy, more than another community might. RM: I don't think any more than any other poor, low income community might. BC: How much time do you think? RM: The fact that Nona and I already had a relationship with this community was invaluable. She lived there. BC: So if the Morgantown folks had come down every other week for four meetings in a row? RM: That would have been nice. I don't know if they could have afforded to do that with the grant. I mean that might be the other thing. BC: It's hard to get money to build relationships. RM: It is. But I guess, if you have some people who already have relationships, like Nona and I, ask questions. Talk to them, ask them what are people looking for, what should we wear to a meeting, what are people looking for?

250 BC: Would it have been easier to get people from Marshall? They're closer. RM: It probably would have. Of course, there's WVU. BC: Oh, of course, there's that. Proximity. We keep coming back to that. RM: There's a quotation: "Distance negates responsibility." Guy Davenport said that. I read it in a magazine article. If we go back to this WVU thing, if WVU is really making a commitment to engage in communities in southern West Virginia, it seems like they have to figure out that that kind of time commitment is critical. You can't just swoop in and swoop out. BC: And that's difficult too. Having worked inside and outside of university communities there's a lot of talk about engagement, but no recognition of the amount of time that takes an no willingness to support that. RM: Right. Even as far as teaching, service, and research. How much

are you going hold up this kind of it's a really just a service kind of thing. Does it really have equal weight or is it the stool that keeps falling over on itself. Yeah.

- 271 BC: Let's move on to terms. A little kind of mental exercise to wrap up with. But before we move on to terms, are there questions, issues you want me to address? RM: Well, I think you're getting at it. I was trying to figure out how you could get from Tammy and Clem their thoughts on what succeeds in working with communities. I guess I hope they'll have some thoughts about that. What are the key things to being successful like this when you're working in low income communities, what does success look like in a project like this? What are the most effective ways to move low income communities forward in projects like this? My thought is that they might not see it as engagement at all, they might see it as you give information that's very clear. Maybe see something about the balance between sharing specifics versus potential kinds of things. How do you balance, you don't want to set people up to be disappointed, but how do you give information?
- 296 Just to see what kind of different, how we think of this stuff differently? BC: Terms. Community. How do you define community? RM: Well, when I think about community in this project I'm thinking about the Left Fork, the people who live there. But in a bigger sense it also includes the County Commission. And fortunately they agree very much that the community has got to be involved in this thing. BC: Can you see them overriding a decision that Morgantown makes? RM: God, I hope it wouldn't come to that. BC: Well, just in terms of their support. Can you see them coming down on one side or the other, or trying to negotiate a compromise, figure this out Ric, you made this mess? RM: They would probably say that. But they know, there have been a couple of times when I have been really frustrated about my inability to get responses from Morgantown about things that I thought they'd committed to responding to by a certain date. And Commissioner Charles McCann Emailed them in Morgantown and said hey it was our expectation that you would do this by a certain date and it hasn't happened, you need to get this done. BC: And did it happen? RM: Yes, but they weren't very happy. It did not make our relationship better. But I'm not sure what else we could have done at that point.
- 325 It's almost like, if we could completely sever the relationship, if there was somebody else we could go to, I'd be willing to do that. BC: Is there? RM: I don't know anybody. And I don't know how we'd change anything. There's all these agreements, everybody's signed them and there's all this stuff. We were able to negotiate for the F&A, the percentage that universities charge for a grant, it's all coming back to the project. And that happened because the politicians down here called in their chits and all. Hardesty, are you going to support southern West Virginia or not? BC: Well, they're getting a good chunk of it anyhow in terms of salaries. But they would have gotten 26% of the money that flowed through them. So it was nice to get that back. But that was the county commission that made this happen. If that hadn't laid some groundwork for understanding that some people here have Hardesty's ear to make that happen. So there is this little political thing we have down here. And in his last annual report there, this is one of 6 projects he's holding up.

- 360 That's one of the reasons I'm excited about our project, that he's already raised it as an issue about, a little bit about engagement but mostly about southern West Virginia. But I think we can take the engagement piece and say here's some of the stuff we're learning, let's try to do a little bit more. BC: And it might be worth my while to try to find some statement about engagement by Hardesty to preface the report. RM: There's something in the report there, I wrote it, but it's there. And there's the other thing about the Carnegie report, the land grant universities, called engaged, Engagement, returning to our roots kind of thing that says that land grant universities are not doing what they're supposed to be doing. Carnegie Foundation did the report.
- 380 BC: What does community engagement mean to you? Narrowly, broadly. RM: For me, it's probably more specific, it means that the community is an equal player in decision making. It means that decisions are not made apart from stakeholders, they get to participate. BC: Who are the stakeholders in this project? RM: Well, primarily the people in the community. Certainly county commissioners too. I met this morning with the new head of the Public Service District that encompasses this area. We might figure out some way to involve them in the maintenance of these system. And if this works out we get a whole new group of stakeholders, it keeps going out. BC: Do you know of other communities that have done projects like this? RM: I really don't. McDowell County is doing some of this kind of stuff with sewage, but part of it's municipal . Fayette? I think they're trying to do something like this. But there's not as much grassroots involvement in these other projects. I hope it's one of the strengths of this project. BC: It seems to me to be a strength, I mean preaching to the choir here, but it seems to me that any kind of project that will require individual and community follow-up has got to have individual and community buy in. Just to maintain these systems. RM: I mean people said of their fellow——

408 END SIDE ONE, TAPE TWO

BEGIN SIDE TWO, TAPE TWO

- 000 (community members that they won't support things they're not a part of) ——the left fork drains to this lake, and we're trying to build a camp. And back in 1990, 1991, we were at the point where we had built a caretaker's house and it was burnt down, arson. I think for the copper wiring, pipe. That's in that place, in this watershed. People have felt pretty screwed over in this watershed. A lot of the land was condemned to make this lake. Martin School, where I taught in 72-74, schools had already been consolidated to send kids to Martin. Martin was then closed to send kids to Woodville, Woodville was then closed and now kids go to Griffithsville or Midway so, any kind of community base in that area has been cut, several times. BC: Did Morgantown people know this history coming into the project? RM: Well, if they'd bothered to read the stuff they would.

041 I don't think they read what we send to them. That's my guess. They're probably too busy, who knows. BC; That's all I've got for today. Conversation about transcribing tape.

054 END SIDE TWO, TAPE TWO

**LEFT FORK OF THE MUD RIVER
DECENTRALIZED WASTEWATER DEMONSTRATION PROJECT**

AUDIOTAPE LOG / INDEX

Date: 07 July 2006

Project: Qualitative Assessment: Left Fork of the Mud River Decentralized
Wastewater Demonstration Project (Wall Service Award Project)

Tape No. QA-LFMR-NC-070706

Interviewer: Elizabeth Campbell

Interviewee: Nona Conley

Address: PO Box 292; Hamlin, WV 25523

Location: Trash to Treasures Store, 351 Walnut St, Hamlin WV

Telephone: 304.824.5178; 304.824.5161

Consent: Attached

Summary description of interview context and content:

NOTE: WHAT FOLLOWS IS A VERY CLOSE TRANSCRIPTION OF THE AUDIOTAPED INTERVIEW BUT IT IS **NOT** A COMPLETE, WORD FOR WORD TRANSCRIPTION. QUOTATIONS SHOULD NOT BE DRAWN FROM THIS DOCUMENT UNLESS THEY ARE SPECIFICALLY MARKED WITH QUOTATION MARKS. TO PULL COMPLETE QUOTATIONS FROM THIS INTERVIEW, RETURN TO THE AUDIO TAPE AND TRANSCRIBE DIRECTLY FROM THE TAPE.

Equipment:

Audiotape Recorder: Marantz PMD 430 cassette
Microphone: Electro Voice MC 150 (omnidirectional)

Tape 1 of 2: Side 1 = 30 minutes; side 2 = 30 minutes

- | Counter # | Summary |
|-----------|---|
| 000 | Start of Interview. TAG. |
| 010 | NC: I work as a community outreach person with the EPA funded wastewater project. BC: How would you define this project to someone who knows nothing about it? NC: Well, in my mind, of course the project is multi-goaled because all of the players have fairly well aligned goals, but each also has their own conception about the project. Of course, EPA wants to come out with a well defined study about how effective alternative wastewater systems are in an area where it's not likely there will every be municipal wastewater service delivered, The county commission sees it as an economic and social development project that will place things in the community that they'd never be able to afford. We don't have the tax base, we'll never have the tax dollars, the federal dollars are so dry we'll never be able to put in place the kinds of money that we're talking about here in terms of an organized system But it's a way to see how such a project might happen. If we're successful, it could be translated to another community in the county, or similar communities in counties outside this. |
| 045 | So they want to measure success by saying we got this federal money and we were able to multiply it by bringing in other funders, and so they also want the pats on the backs and such. And from Ric's and my perspective, and the community's perspective, we want to see community growth come out of this, ownership, participation, that they accomplished something that really made a difference in their community. Upgraded their quality of living, the value of their homes, the health of their kids and grandkids, like I say the underlying goals are fairly similar but kind of different it some ways as well. |
| 064 | BC: I'm going to jump around in my list of questions because one of the questions I had for Ric that he thought would be interesting to ask you is this: Why exactly do you think people want one of these systems in their homes? It's not going to do anything for them directly is it? NC: Well, for one thing, this community is very low income. And it's a community that feels disenfranchised, disengaged from the authorities in the county. And so they almost all have a sense of living on the edge of whether they're legal or not, whether they're in compliance or not. They live with this dread that someone's going to come knocking on their door and say "This is wrong, you're going to have to correct this." And when you live on the edge economically, that's very hard. It's like getting in your car and your muffler's loud, so am I going to get to the grocery store and back home without getting stopped. I can't afford the ticket or to get it fixed. So that's one piece of it. But also, and I'm generalizing here I know, but this is one of the communities in Lincoln County that has been conditioned to get things from the government. Food banks, etc. You all hide out to get the first place in line, to get the best that's coming because that's all you're going to get out of your government. |

- 098 You get so few services here that you're going to step up and get what little you can. That's the only value that you see out of your tax dollars. The other thing too, I think, is that there are a lot of people in the community, even those who have quality, permitted, approved systems, are sure they function the way they're supposed to. Because they have evidence that something's going on. So they do what they're supposed to, but they might be looking for systems that work better. These are communities that had outhouses until very recently. And they worked fine. Of course, we had E. coli in the streams and all, but.
- 128 BC: So is there concern for the environment at all too? NC: I wouldn't characterize it so much as concern for the environment, although that's one of the terms that's used. It's more about community health, quality of life because you can't sit on your front porch when somebody else is straight piping right into the creek above you or below you. And you can't let your kids play in there. And there's frustration, too. Even though you're doing everything you can to clean up your situation, because of lack of money, concern, energy, whatever, others aren't even trying to keep it up.
- 143 Most people that I talked to in the very beginning when I was going door to door, agreed without my even asking that there really is a problem, something needs to be done about it. Very few said I'm part of the problem, that wasn't what they said at all, but they all agreed that it was a problem. But there's also still confusion among many that what we're doing has to do with public water. Still some are thinking that one of these days someone's going to pull up here with a backhoe and they'll lay sewer lines and make me hook up to it. That kind of thing. In terms of those perceptions, why they want to be involved, for the most part they've earned it. They've come out and participated, they've made a show, they've had a part in making it happen. So they feel that they've earned it. That's part of their payback for their contribution.
- 171 (phone rings) BC: Do you need to get that? NC: No, and if I get off tangent just let me know (laughs). BC: I don't know that you can get off tangent because you have so much information about this project, and about the process itself. And my interview style isn't very sort of stick to the questions. NC: Well, if I do skip over something just holler about it. BC: So your role in this project is community organizer. NC: Outreach. BC: Outreach. And how did you get involved in it? NC: Well, Ric told me about it and asked me if I'd be interested. And I said sure. He knew I had ties to that community. I lived there, my girls grew up there. Like Ric, I had a connection. Knew the people, we had a strong commitment to the people and the community itself. BC: How much do you think that counts for? NC: In terms of time it counted for a lot. "We already had a foundation of acquaintance. We weren't strangers coming knocking on somebody's door." My daughter and her husband ran a little grocery store there. And it helps when people know who you are. "We didn't have to go through a long period of trust building."
- 193 BC: It makes your job easier. NC: Oh definitely. It laid the groundwork for me as well and for Ric. We came in with a sensitivity to the community. Kind of an awareness of the relationships, the dynamics. BC: So how did it make things easier for the community

to have two people who knew the community. NC: I think it made it much easier for us to be honest with each other in the beginning. They knew that we knew where things stand. We'd gone through it with them. "I'm not saying that, there's still some testing going on, I think that's a perpetual part of it. Because people are so reluctant to trust anybody that they see with some kind of outside authority. And even within their own community we still see a lot of that." "Somebody who has served as some kind of representative in the political system or something. They have a different place in the community. And there are certain things you don't talk to with those folks because you don't know how far you can go." But I think it really did help smooth things from both sides. When someone says something to one of us it's easier for us to understand where they're coming from.

218 BC: You talked earlier about the stakeholders, do you yourself have goals for this project in a addition to all of those stated goals. NC: Actually, I do. (Laughs). You know, and I can't help but have goals in this direction because I care about the people who live in this community. I want to see a greater sense of empowerment in the community when the project is completed. That they can feel that this was a project that came from the community, carried through by the community, came to a successful conclusion. We did this. Because there is so much intelligence and skill and common sense and resourcefulness in that community. To help them come to a place that they can make a difference as a team, as a group. Even though they all have something different, different levels of commitment, they all recognize that they have something to share. BC: For you is that the most important part of this project, the empowerment? NC: Well, if it's not the most it's awful darn close. But the other part of it is that this community is like a stepchild, what few services they've had have been yanked back away from them. So I'm really hoping that this will be a healthier, happier, more prosperous place to live. People have decent property, answers available to them. I'd like to see some of these people on tape, telling their stories.

251 BC: Do you think that Ric is seen as WVU or is he something different? No, he's Ric. They recognize that he works for Extension, but Ric is unique. I was telling him that if there was someone else sitting in his office when this project came into being—first of all, it wouldn't have because he was such a driving force—this whole thing would be very different. He has a strong relationship with the community and he sees himself and connects with people as part of that community. So his representation of the University is really minimized by that. BC: So that's a really tangential part of who he is. NC: Exactly. And Ric does not come across as an authority. He's on our side, he's part of us. That's going to play a huge part in the success in this. And I have to admit that how we could translate that into another similar project somewhere else, I don't know how you would do that. He's such a strong piece. And the way he connects to community. BC: It would be hard to find someone with that history and that personality, but the approach is something that people can share. But I'm hearing it over and over again, that approach, that respect for the community really has to be in the forefront. NC: Yeah. I don't know how, it would be very difficult for the community to come out for a project like this unless someone was willing to spend the time and the energy building that relationship. Maybe they wouldn't have to relate on the broad base that he does—there's

three generations that know him there now—but it would take a genuine commitment to knowing the community, what their goals and strengths are to successfully move them through a project like this.

295 And to play that straddling role that Ric does, to represent the University, to tie in the folks from Morgantown to the community, not just the Left Fork Community, but the Hamlin community as well, the county commissioners. He has spent a number of years building a strong relationship with county officials as well that have given him the level of respect that they have for him and that if he says he's going to do something he will. But they also know that he's going to do it with the highest interests of the community in mind. It's clear which side he's on, if there are sides to be taken. BC: But this is another thing that keeps coming up, that history, or at least some way of recreating what comes out of history, the relationships...NC: After Ric and I had that conversation I was thinking about how when a government or some entity wants to make changes to a community to their benefit, one of the things that they do is find one or two people in the community who have status to sell their line. And the communities have seen this too, so there's a certain amount of mistrust for that kind of thing. BC: Do you think this has to do with the unique history of natural resources in West Virginia? NC: I think it's universal. It's part of a colonization kind of attitude that has prevailed throughout history no matter where we've gone. Somebody who wants something from somebody else and doesn't want to pay for it. How can I get it for the very least, even if I have to line someone else's pocket a little bit to get it?

329 Anyone else who came in with a similar project would have to identify, even us, we had to approach people and say we know you, we know that you care about this community and we're trying to put together a core group. Somewhere in the neighborhood of 200 houses up there. BC: So knowing the people operates on every level. That brings me to the university –community partnership. How would you assess it? NC: Tenuous at this point. Even though we're more than a year into this, beyond Ric the University folks have been in the community three times. So the folks who come to the meetings recognize them, but they don't know them. They haven't had a chance to get to sit and talk to them, find out who they are, what they're about, that kind of thing. "They've come in a manner that kind of set it up that clearly they are the authorities, the experts, the ones who have all this wisdom to impart - kind of thing." So even though the community is pretty open to them, they still don't have a sense of who they are.

358 BC: You've probably had a much closer dealing with them than other community members have so you've got a stronger sense of this aura that they project. Do you think that other people feel the way that you do about the Morgantown folks? The authority thing, the expert thing. NC: I think so, maybe not to the degree because they haven't had the exposure, but that's one of the concerns that we're trying to work around with Tammy and Clem. Not so much the student workers because they have a function, they come in and do the sampling and leave. But Tammy and Clem have a much higher level of interaction that they're going to have to be doing with the community. And it's troublesome that in our interactions with them, and this isn't really a criticism, it's a comment, even when we (Ric, myself, the County Commission), interact with them, even

though there seems to be communication going on there are more unanswered questions than answered questions. Every interaction seems to open another door for interpretation it seems like.

375 And our working styles are completely different it seems like. BC: How would you describe your working styles because that's important. NC: Oh I think it's critical because one of the things that we've realized is that because of the way things have to function here there isn't a lot of money for things to get done with. SO it's important that every person involved do the pieces that they have to be responsible for and that they have clear guidelines for when those pieces are going to get done. My interpretation of a deadline might be different from someone else's (PAUSE). The other thing that's different is that we do our own work here. We don't have anyone to delegate it to. My perception of the way the University works is that we are a tiny piece of their pie and they think in terms of deadlines and tasks over a longer period of time. For one thing, we've got the community here, and if something isn't happening in a reasonable period of time, people lose interest. It's like, Oh my god, another meeting, and nothing's ever going to happen here. People are used to living at the practical end of it here. I think that adds to the level of frustration about communication because we're thinking in terms of the ten things that have to happen before this happens, where they're just thinking about one thing. Meanwhile, we're just sitting here at step three twiddling our thumbs because we haven't gotten a piece of information from them that they thinks is fine if we don't get it for another 30 or 60 days. So that's frustrating. Meanwhile, you've got a community saying, Why haven't you gotten these things done?

406 END SIDE ONE, TAPE ONE

000 BEGIN SIDE TWO, TAPE ONE

000 —BC: How would this be different if you all had the technical expertise and didn't need to go, well that defeats the purpose of it being a community/university partnership— NC: It does, it does. BC: But if you had the technical expertise here, how would this be different if it was a purely community project. NC: Actually, we posed that question to ourselves a couple times. If we had enough money, or instead of contracting with the university we had taken that money and hired an engineering firm where we could have picked up the phone and said okay this is what we want to do, what equipment, time, man hours, money will it take? If we had a firm on retainer that we could just run those questions by and they could give us viable answers, um, and we were clear in our minds what our expectations of them were and they were clear in their minds what their expectations of us were, I think it would change the dynamic a lot. Because, heck, if they

didn't give us what we wanted we'd fire them and go find another engineering firm for one thing.

030 I think the dynamic would also be different because they wouldn't be part of the team, they'd have advisory capacity but not be part of the decision making process. The community could move forward at their pace, we could work out a calendar, this is what we want to do. "But when you've got someone else in the mix that we truly want to have as part of this team because we do see the university's part in this, as being very valuable. But it's, what's the word I want to use, it's cumbersome. It's very cumbersome. Especially when you run into the kind of communication problems that I'm talking about."

049 BC: Could you go into depth about some of those communication problems, give some examples? NC: Well, again, it goes back to communication and definition and that kind of thing. It took us a full year before we got from them what they felt was a reasonable period of time to respond to a question. They were thinking thirty days. We finally agreed that sometime within two weeks we could expect an answer to a question. But when we're sitting here where the rubber meets the road that seems unreasonable. That means that we're tied up for that period of time while we're waiting for an answer. If we could somehow anticipate our questions further ahead, that would be different. But that's not the way it works. Because when you're in the middle of trying to make something happen you need answers. The other things in terms of definition is what you were talking about earlier.

080 When we talk about community we're talking about the folks in the Left Fork. To us, that's the community. That's where the action happens. The community also peripherally involves the County Commission because they are the funding agency, they bring the perspective of what value what we're doing on the Left Fork has to the rest of the county. How are we going to take what happens here and use it as a tool to forward, improve the quality of life in other people's communities? And what are the pitfalls of that, where do we take this information when we're done with it. And from our perspective, that's the community. And when we hear the word community, and it's taken a while to learn this, when we hear it from Morgantown those folks are talking about Lincoln County, and the agency people that serve the county. So it makes it difficult to talk at the level that we're talking. Because we're talking about individuals, who will be directly affected by this project. And stakeholders, that was the other thing. When they were talking stakeholders, to me the stakeholders are the community. They're the ones who will be directly affected. To them the stakeholders are the agency people. The people writing the checks, the rules and regulations, doing the permitting, the oversight, the legal and ruling oversight.

112 So, you know, Corps of Engineers, that kind of folks. Who are about as far removed from Lincoln County as you know, they might as well be sitting in Washington DC as sitting in the Corps' office in Huntington. Except that these are the people who are going to get in their little government cars and drive up the hollows and say That's wrong, you better do something about it or we're going to fine you. So just trying to make all of

those, maybe we should have had two week intensive before we started the project and said, Ok, how are we going to relate to each other through all of this. BC: I was thinking as I ate lunch about preliminary things, and it does seem that there should be, maybe not two weeks, but at least a little handbook or something that discusses expectations, goals, history. NC: Yes, and another one specific to this project that we've had a real challenge with from the very first meeting with the community, one of their first questions was How much is this going to cost? And we have never gotten an answer from Morgantown about how much this is going to cost. They sat with us and looked at the budget, but more than looking at how much money was in there for systems, at this end, it was how much money do we have written in there for salaries and benefits, that kind of thing, you know and how many student assistants. So in terms of cost, the community still has no idea what the range of cost for these alternative systems are. Ric and I don't have that information. That's been a real bone of contention. When do we get to find out how realistic this amount of money we've budgeted for systems is?

144 BC: That seems pretty critical to me. Because if, god forbid, they turn out to cost 50,000 each and you can only put a handful in, you're going to lose a lot of credibility. NC: Exactly, very much so. And like I say, this is a community that lives, if not hand to mouth, within very tight budgets. And so even though it's not their money, they know. They can take 100 homes into how many dollars and figure out how much there's going to be for each. Well, what if the systems cost more than that? You know, what does that mean in terms of what we tell our neighbors about the likelihood that they'll get a system before this is done. Morgantown is saying that we don't want to quote anything yet because people take you at your word. And then if you have to go back and say well gosh we were off by \$10,000 or \$5,000, then they try to hold you to that. Well, if you go to buy a car and the salesman says this car cost \$29,000 and then he goes to his manager and comes back and sells well I told you the wrong amount, well you'll just have to go with that. But if he tells you I'm not going to tell you what it costs until we're signing our names on the bottom line, I'm not going to buy a car from a fellow like that and the community's in the same boat. How can we trust these people if they won't even tell us how much these things cost? What are they hiding? It's like a telemarketer who calls and says you're going to get this free but by the time you're finished talking to them you're signed up for payments for the next five years. Which is money you didn't have because you wouldn't have listened to them for three minutes if they'd said that first.

171 And so it's just... BC: How do people feel about the university? NC: I think it's a mixed bag because most of their experience with it is either through the Ag agent in the county or through 4-H. Ric was the Ag agent, he wore all the hats. Ag, youth, and now he's not even that right now because he's moved into part time with this project. And those people have learned to trust and have some level of respect for it. So their concept of the university is pretty good. But once you go beyond the local person, the local officer in Hamlin, then there's that distrust again and that level of uncertainty about who these people are and what do they want from me. BC: How do you think this project is either changing their ideas about the university or reinforcing them. NC: "Well, my concern is that it's pretty much reinforcing their ideas, so far, that these are people who have no tie to the community. They're people who know more than the local community people do,

and that the way they see the world is the way the world really is and (laughs) however you see the world has no validity kind of thing. That disturbs me a lot. Because we would hope, I would hope anyway, to see that gap closed somewhat.” This is a community of people who have children and grandchildren gone off to college. It’s like you have this granddaughter who works at Wal-Mart, and you have this relationship with the granddaughter, and you might shop at Wal-Mart from time to time, but you get a whole different picture of who Wal-Mart is when you listen to your daughter talk about working there. What the conditions are like there, what the company itself really wants. What their goals really are. And so I guess that’s part of my concern. That the relationship that we’re trying to build is a huge hurdle just because they’re seeing up to now at least, some reluctance on the part of the university people to communicate at their level, to be honest and open with them, to not come across as the guys with the whip. This is the way it has to be kind of thing.

221 One of the examples, and I haven’t even talked to Ric about this, when we were in the watershed last week, Clem had invited a fellow from DHHR Wastewater Division to come out and tour the watershed with us. And (customer enters, small talk, where merchandise is) those folks all rode in one car. The Morgantown folks, the guy from DHHR, the County Sanitation guy. And Ric and I rode in another car, even though Ric tried to ride with them so he could be part of the conversation that was going on, be aware of their questions, their thinking. But when we got out of the car at certain sites, they were there with cameras, pointing at people’s well boxes and that kind of thing, and it frightened people. Because here we are coming out to investigate them. They made no attempt to talk to people, they just went on about their business, went to the creek or whatever they were interested in looking at. In a couple of instances when people approached them, well then they talked to them. But it was very unsettling for the folks out there. And especially too, and I think this is a form of communication too, the way you dress when you go into a community. When you go into a community like the Left Fork, this is way up hollow, and when you go into a community like this, now Tammy, when she comes out to do water sampling and stuff she comes dressed appropriately to do that.

253 But when you come dressed in your dress clothes, and especially the guy from DHHR who hadn’t apparently been given any indication that that’s what we were going to do, and he was out there in a white shirt and tie, with a camera, in this community. This sends messages that are real difficult to overcome, even though you might try to laugh it off and say oh, gosh, they didn’t realize where they were coming, the first time that might work, but when the same person comes back and they’re still in their dress clothing up hollow, that sends up flags for people and that makes it challenging. I don’t know where we were on that question (laughs) but that was an example I wanted to share with you that it really did set people on edge that the first thing they did without even introducing themselves was get out of their cars and start shooting pictures, pointing at their well boxes. BC: That’s exactly like the doctor who comes in and picks up your infected toe without saying hello to you. That’s a rapport thing, and a respect thing. NC: Exactly, it’s respect. I mean these people just come on folks property and hadn’t even said hello. Or waited to be introduced or anything. BC: And no one set their dogs on them? NC: I

wouldn't have been surprised if they had, honestly (laughs). But yeah, like I say, that's a form of communication, I'm here on an important mission and you're really just kind of peripheral. You're not important, you don't have any value in this process. We'll let you know when we're ready to tell you what we're going to do.

- 276 BC: Going into this project, what did you think the biggest challenges were going to be? NC: Trust. BC: You thought that going in. NC: Yeah, that was pretty clear from the beginning. BC: Has that turned out to be the biggest challenge? NC: In terms of the interpersonal challenge, yeah, the other challenge is just getting something like this to work in a geographic area like that. These are narrow hollows. In some areas there's an adequate amount of land around these homes, but there are other areas where the homes are just really packed together and there's not a lot of room to do this kind of thing. Which is one of the reasons why people don't have appropriate systems in the first place. They don't have access to the land to do that. So technically that's going to be one of the biggest challenges. BC: What challenge have you encountered that completely threw you, that you didn't anticipate at all? NC: Morgantown. Seriously. Because all the other challenges, essentially, are just, because I knew going into this that we were going to experience some reluctance on the part of the community, that we were going to have a trust building challenge, this is a community that, like I said, has been promised and promised and promised and promised, and if they ever got anything it was immediately yanked away and they lost twice what they got in the first place, so that was a given. But I really had hoped that the university folks, beyond Ric, would have brought more sensitivity to this. Especially since these are folks who keep telling us over and over that they work in communities all the time. And that troubles me a lot. Because if they work in other communities that way we've seen them working here, what does that say about the way they've worked in other communities. And Ric and I talked about that a couple of weeks ago. Maybe other communities that they've worked with are people who are more business oriented, more academic oriented, so they assume that's the way things are done anyway. You know, that's part of their acceptance of the world is meetings.
- 305 BC: Well, but the collaborative thing you guys are trying to do is different. We do collaborative work too and it's still pretty rare. And so they might very well work in communities all the time, but just meet the "stakeholders," i.e. the commissioners, the check signers, and have no idea who they're actually doing this work for. NC: Exactly. Right. And that's what I say, even if community is involved in these other projects, they're probably more conditioned to things happening that kind of way. If you have a problem with the school system you go to the School Board meetings, and you lay it in the Boards lap and you walk away. You might come back and say where are we at with this, but you don't expect to be part of the team. And maybe that's what the difference is here. The community has to be involved. Has to be. BC: Why does it have to be? NC: Because nothing can happen there, and if it did happen, if it got imposed on them, I can guarantee you it wouldn't last very long, because they'd see to it that it didn't exist within five years. BC: There'd be a lot of weird, recycled stuff on Ebay? NC: (laughs) That could be. (laughs) If not there, at least at the closest flea market! Because when a community gets disempowered in that way, when they've not been allowed to build a sense of ownership, they don't support it. They do everything in their power to get rid of

it because it's foreign to them. It's not a part of their world. It's like, I was thinking back to when I was growing up in central Nebraska. And the rural electrification came through. I mean this was just a few years after the Depression. People didn't have money. The farm areas were in crisis, all of their young men had been sent off to war and some of them came back, but most of them that did come back didn't come back to the farm they went to school. They went and bought a house on the GI Bill.

332 So there was a huge shortage of labor. And people were very close with their money, they had to be to survive. And yet, even though electrification was supposed to be this grand thing it was kind of imposed on people, but they did at least form the associations, the Co-Ops, so people that wanted to get involved signed on. They didn't impose it on everybody, they got enough to sign on to run the lines and that kind of thing, and as people grew used to the idea they could tap in and everything. But it's kind of like the same thing in this community. Until the community feels that we're being open and honest and it's really their benefit we're concerned about, not the grand pats on the back the County Commission's going to get if this is successful, not the pats that the university is going to get if it looks like they partnered in a really successful million dollar grant in rural Lincoln County. "It has to be about what happens on the Left Fork. It has to be what happens up Flat Creek, and up Stinson, and on Dogbone, how it changes those people's lives. Because if it isn't it means nothing to them. It hasn't made any impact." And how can we expect them to say to their friends and neighbors who live outside the Left Fork, and their relatives, Gosh, if you guys ever get a chance to have a project like this, jump on it. BC: Do they say that right now? NC: No, I don't think so. I think they probably talk still a lot about the pros and cons. Because here we are a year and a half into the project and no ground has been broken. There's not even any evidence that ground will ever be broken.

356 BC: Are you starting to lose people yet? NC: Yeah, we have lost a few people. We've had some who came in the beginning who have stopped coming and are sitting back and saying, well, if anything ever does happen I'll come back. To some extent we've also gotten additional buy-in, but it's tenuous. When is this ever going to happen? How much is this going to cost me? How much is this going to cost me to take care of this after it's in place? All of these bottom line question to folks, and they're not going to fully buy in until it's answered. When they see that first system go into the ground, if it looks like it has some value then people might say, yeah, okay, I'll talk about that. (Long pause) I'm trying to think about other instances of definition and that kind of thing that we've found to be stumbling blocks. And like I say, I don't mean this to be a kind of criticism, at all, of Tammy and Clem, because as individuals they're great. When we can just sit and talk with them one on one, they're great. It's just that their worldview is so different, you know. I guess the troubling thing about that is that we don't see that they recognize that their worldview is so different. And we don't see that they're willing to spend any time in the community to overcome that, to change that, to open it up. To listen to the community.

380 This last meeting that they were down for, we did ask them to kind of present their perspective, but asked them not to do a PowerPoint presentation. Because you know how

that really changes the dynamic in a room. If you're standing up there doing this PowerPoint presentation, especially up a hollow on Left Fork, you know, people are listening to you because you are up there at that podium. There may be a few questions, but there are not going to be open communication. This time, because they didn't do the PowerPoint presentation, even though we were all sitting in this room and everyone was sitting, when it came their turn to talk they stood up. BC: Had anyone else stood up? NC: No, they stood up to talk. BC: Who stood first? NC: Well, Clem did first because, no that's not right it was Tammy first because she was asked to talk about her part of the project first. And in a way her standing up was valid because she had a map there on the table. And as long as she was talking from the map, it was good. But she never sat back down. So everyone was sitting except her. And when it was Clem's turn he stood up for his part of the presentation. So when two people are sitting across the table from each other or when thirty people are sitting across the table from each other, that says one thing, you know about the dynamics in the room. But when one person stands up and talks TO the rest of the group...and I don't think they saw that. I don't think they felt what changed in terms of the atmosphere of room when they did that. And how it didn't become an open flow of information and questions, it was um, anybody who asked a question at that point was challenging the person. (Nona addresses customer)

407 END SIDE TWO, TAPE ONE

000 BEGIN SIDE ONE, TAPE TWO

000 —(small talk about the spring) NC: So are we getting anywhere? BC: Yes, actually we're addressing the questions I had. NC: Well, I think one of the other frustrations, and again it just goes back to communication and perspective, is that we haven't had enough interaction with the university folks yet, even after this period of time, to work out a speaking style or a dialogue style I guess I should say. So that we're all comfortable with it. BC: How much time have you spent trying to work that out? NC: A lot, we have a lot on this end, anyway. With them, it just seems like anytime we request a meeting, like I say we come together and have this really, really nice meeting you know, and then when we go home it's like, gosh, what got decided, and there's this whole range of other questions that's been raised. Things that we thought we'd already reached agreement on. All of a sudden the agreement is different now, it's changed somehow. And I don't know if it's just a function of we haven't had enough interaction with them, because essentially they respond to Ric's Emails. We don't even have the opportunity to talk on the phone.

050 I think Email, even though it's very efficient, it's cold also. And you don't have that chance to develop that human part of what goes on between people. It's just very cut and dried, very cold. If you already have a relationship to build, that's fine. BC: You're absolutely right, you can't really build a relationship on Email. NC: Right, and so, it puts both sides on the defensive I think. When we feel that we're not getting enough answers to our questions, then we rephrase the question and ask it again, try to find a more appropriate way to ask it, they see, well I've already answered that question. What is with these people? I get the sense that's a lot of what goes on because we're talking at

cross-purposes a lot of times. And I don't know what it would take, unless—like for instance when they were here last time. One of the things that drives us crazy is that they come all the way down from Morgantown. They spent three days with us this time. On Monday we were together in a meeting for about an hour and a half with Tammy. Tammy and Clem came to the community meeting that night, drove by themselves, drove back to the hotel. The next day they were in the watershed again, we drove around, got out at appropriate points, separate cars, they went back to the hotel, and at 1:30 in the afternoon they left. And none of that time was free flow conversation. It was all we were focused here, we were focused there. So there was no opportunity to relate in any way about any of this. And even when Ric asked to ride in the car with them, they chose to ride by themselves.

091 And we don't know if it's because it makes them uncomfortable, or if they don't even see it at all. And so it just, if it feels that way to Ric and I, I can just imagine what it feels like to someone who lives in the community. At this point, Tammy comes down once a quarter to do water samples in the creek and they've been to three community meetings in a little over a year. It's hard to see how a relationship could be built between the university, as I say beyond Ric, in that way. And I realize we're four hours apart. And we're limited in travel dollars, but it seems to me, and I think Ric feels this way too, that we ought to be getting the most bang out of the buck. You know when they do travel down here, they ought to be in the community, engaged with the community somehow. We don't know what to do, how to posture it, how to encourage it so that could happen. They didn't even stay to the end of the community meeting this time. You know they just got up and left because they had an hour's drive. Well gosh it was an hour's drive for Ric and I to get back to town, but they had an hour's drive to get back to the hotel so they felt they had to leave to get back to the hotel. And in the community, you've probably seen this too, it's like church. You have thirty minutes of hugging and camaraderie before church starts, and you never get up and walk out of the church unless you've got a critical reason why, you stand around and talk. That's how community happens.

126 Because it's people, it's human beings who have lives that are important to them. And if what we're trying to accomplish doesn't touch their lives, how can we expect it to be important to them. And I know that Clem and Tammy, because they say it often in one way or the other maybe in not so many words, that's your job. Granted, it is our job. But why do we need them? And if we only need them for technical expertise—BC: You could have gotten it a lot cheaper and less complicated—NC: Right, and without all of the strings attached, you know, that they still feel that they have the right to call the shots. Where if they see their only part as providing technical expertise, that doesn't come with the privilege of making the decisions. The community has to make the decisions. It just seems as though there are disparate goals there. And that may not even be realistic. I'm sure when you talk to them they'll say What's with these people? Don't they speak English or something? Whether they're feeling the same levels of frustration that we are. And if so, or if not, are there things that can happen in an interaction like this, in a partnership like this, that can help get over these hurdles, work through them. Sometimes I feel like we need to have a retreat where we just go and lock ourselves in a facility for a

weekend and do some bonding or teambuilding exercises or something. SO that we can recognize that we're all human beings and we're just trying to make something happen that's good. Trying to make a change that can benefit people's lives.

- 159 BC: It sounds like this partnership thing has been the most frustrating component of this. NC: Oh my gosh, I think that if you'd ask the community they'd say If they had just given us the money in the first place we'd have gone around with an envelope and said put a wastewater system in with this money and everyone would have one by now. I'm sure that's what they'd say. That's kind of what they say to me over and over and over again about this process. But that's one of the things that we have a responsibility to reaffirm that it's the process that's important, not the systems. Because if we get the process in place anything can happen. Whatever they see a need for in the community. And I think that's one of the things that's frustrating about the university is that they don't see themselves as part of the process. And they're frustrated, they seem frustrated with the process part. Call us when that's done, you know, that kind of thing.
- 174 (customer talk) Tape pause. BC: Nona, if you imagine yourself in a position where you're in front of a group of people who are about to embark on a process like this one, what would you follow these statements with, "When working in a community like ours make sure not to" or "do not"—NC: Sell the community short. Um, one of the things that's very clear in this community, as with any community, is that there's so much skill there and knowledge and wisdom about the community, about the creeks, about the way the land lays, about the weather, about their neighbors, all invaluable information when you're talking about doing something on the scale that we are, and none of that seems to be taken fully into account in terms of the project. You can't buy that kind of information, and yet it seems not to have much value in this process.
- 202 I've often wondered if, in the very beginning when we got this money we could have talked for four straight days and somewhere toward the end the community might have said, well, maybe we should bring the university in to this. Ric yes, Extension, yes, but I don't think that they would have encouraged us to bring someone from the university in as part of the team. And what bothers me is that I'm concerned that at the end of this project we could bring the community back in to redesign this whole thing I still don't think they'd want them in it. BC: What's the most rewarding part of this for you? NC: Oh, the interaction with eh people. Yeah, definitely. And the value that I gain from working with Ric. In all the time I've worked with Ric I've never once ever had to question what his agenda was. Ever. It's always up front and it's always about the people. It's about the community. You know? And that has so much value. And see I guess that's the other thing that's distressing as far as this is concerned. Having that knowledge as far as Ric is concerned, but not having that same sense from our other team members. It's always afterwards, whose agenda was that about? And that's not good. Because if I feel that, surely the community does too.
- 220 BC: Is there anything that I haven't talked with you about or asked you about? NC: Gosh, if there is, I can't think of it off the top of my head. BC: What questions would you like me to take up to WVU when I go? NC: Oh gosh. What do they see we could

do from their point of view to smooth this relationship, to move it forward? You know? Maybe the concept of them having to be involved with and interact with the community on the level I'm talking about would muddy the water for them. It might be cumbersome for them to work in that role. And if that's so, what can we do so that at least we're not talking at cross purposes, so that we're at least moving things forward together as a team, presenting a united front.

- 246 One of the things I fear out of this is that the community's going to set it up as us and them. BC: And "them" are going to lose, they always do. NC: Yes, because how many times can you say to a community, well we haven't got the answers to those questions yet. Well, where can we get the answers, well we have to depend on the Morgantown people for that. When you have to say those things so many times you're undercutting the trust level that they have for the university people and what their agenda is, how committed they are to the same things the community's committed to. Like I say, two things. I don't want to give you the impression at all that this watershed project is not important to me. At all. I lived in that community. I know how hard it is for people. Especially when you've got a postage stamp size yard and you've got three vehicles and fourteen dogs and a mobile home, how do you make all of that fit and how do you make the wastewater system function if it's got to be parked on all the time and driven on all the time. I know that those are real problems. And I also know that they care, they really care. But for generations they've just gotten by the best they can with what they've got.
- 263 So the project itself, if it can accomplish the goals of first of all demonstrating that alternative wastewater systems can work in a setting like this, and they can give the community folks something of value that's going to change the quality of their lives, that's wonderful. It really is. But I have to ask myself at the same time, at what cost? In terms of peace of mind, trust of the authorities in their communities, trust for that matter of Ric and I, trust of the people from the university. Their willingness to come together again when something else comes up. Something that might be even more critical than wastewater, you know. Something that comes from within the community itself. I don't want to see us build disempowerment back in. BC: Tear down stuff that's taken so long to build up. NC: Exactly. But we're still living with the same dilemma. And maybe if we had laid two years worth of groundwork with the university folks before we started we could have worked some of these kinks out. BC: So the community's been working on this for two years. NC: That's right. BC: And nobody's got a unit yet. NC: Nobody's got a unit yet, no ground's been broken, no site's been identified yet. How much patience do we expect people to have in this process?
- 288 If out of this comes any recommendation at all for how to move this one forward, which I would love, or at least recommendations for how to move other ones forward at a little bit more equitable and reasonable pace, that would be wonderful. (Skip in tape.) The university folks too have an opportunity to build trust in the community, that when they're given adequate information they're going to make the right decisions on their own. They don't have to be lead to any decision. The decisions are inherent in the problem once they have the required answers to the questions. BC: So you think these partnerships have the opportunity to demonstrate to the university as well the very things

you believe about the wisdom and the knowledge and the skills that the community has. NC: Absolutely. Take any group of people. If they're given the information that they need, they're going to make the decisions that are best for them. It just has to happen. Unless someone comes in from outside and exercises an unusual amount of control and says I want this so that's what's going to happen, that always has the potential to happen, but for the most part when a group of people are given information they make the decision that is right for them. Not necessarily right for somebody who lives an hour or four hours away, but the decisions that are right for them.

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END OF INTERVIEW

APPENDIX D: SOLOMON INTERVIEW TAPE LOG

Date: 19 August 2006
Project: Qualitative Assessment: Left Fork of the Mud River Decentralized Wastewater Demonstration Project (Wall Service Award Project)
Interviewer: Elizabeth Campbell
Tape No. QA-LFMR-CS-081906

TAPE LOG/INDEX

Interviewee: Clement Solomon
Location: National Environmental Services Center
Address: National Center for Coal and Energy Research;
West Virginia University, Morgantown, WV 26506
Telephone: 304.293.4191 x5566
Consent: Attached

Summary description of interview context and content:

NOTE: WHAT FOLLOWS IS A VERY CLOSE TRANSCRIPTION OF THE AUDIOTAPED INTERVIEW BUT IT IS **NOT** A COMPLETE, WORD FOR WORD TRANSCRIPTION. QUOTATIONS SHOULD NOT BE DRAWN FROM THIS DOCUMENT UNLESS THEY ARE SPECIFICALLY MARKED WITH QUOTATION MARKS. TO PULL COMPLETE QUOTATIONS FROM THIS INTERVIEW, RETURN TO THE AUDIO TAPE AND TRANSCRIBE DIRECTLY FROM THE TAPE.

Equipment:
Audiotape Recorder: Marantz PMD 430 cassette
Microphone: Electro Voice MC 150 (omnidirectional)

Tape 1 of 2
side 1 = 30 minutes; side 2 = 30 minutes
Tape 2 of 2
side 1 = 4 minutes; side 2 = 0 minutes

Counter #	Summary
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- 000 Start of Interview. TAG
- 013 BC: Shall we begin at the beginning? I'm interested in the project description and goals because I think that one of the things that's really important is to get a sense of how each

member of the team sees the project. Sometimes how people define a project is different among the partners so the first set of questions are general. In your mind what, very broadly defined, is the nature of this project. CS: We'll make this a conversational back and forth. Before I go to that I would like to tell you about what we do and how we fit in the big picture of academics. Typically, when you say you're from a university, it's assumed you're a professor on a tenure track trying to publish papers and do research. Our center's uniquely poised through the West Virginia Research Corporation. Everyone in our Center is just the opposite of what a faculty would be.

040 BC: So this is like what CRM work would be? CS: Yes, we are like faculty equivalents but we are not tenure track folks so that is the first distinction as far as being a service center from within the university. Number two is typically universities are very academic in nature as far as teaching classes and research is concerned. Our Center is completely service oriented. That is a very important part. Our bread and butter is dealing with communities at various levels. The first level being us offering technical assistance over a hotline that we have. So people from communities and all kinds of stakeholders—homeowners, regulators, industry folks, this happens 9-5 every day and that is one level of our service. At the other end of the spectrum would be us actually being in a community, going from the whole process of visioning all the way through implementation and taking the community through that whole process. We're basically a service center, like you would call customer service, but we also go door to door, not just answering phone calls. So that's one end and the other end.

070 BC: Help me understand how you would be different from a regular engineering firm, other than of course, an engineering firm wouldn't give away information. CS: We are a non-profit, unbiased service center that was established with funds through Congress to assist small communities that lack financial, educational resources, barriers to implementation. I wouldn't define us as a consultant, but we are very close. But no product to sell. We basically go to a community and say here are the range of options. And an important piece of our activity is to work from within the community, of the community for the community, by the community, and it is always a bottom up approach. We lead the horse to water basically, and if the community decides not to drink it, I say that's what they decided to do. But we offer facilitation services, that's what we do. In a sense it's consulting, some fee for service, but even at that level our charges are much, much lower than a consulting firm.

098 BC: I've worked for archaeology CRM firms that's based in a university, and we'd charge differently that a private firm would, but we'd also have to identify random things that people brought in off the street. So it would be somewhere between a university situated CRM firm, but maybe not quite as business oriented? Would that be a proper way to get it in my brain? CS: Yes, we are business oriented, but we also have funds that are appropriated by Congress. BC: Okay, so it takes some of the pressure off you all to find the funds to continue your work. CS: Yes, we have some annual set asides that happens, thanks to Senator Byrd. So we are a very uniquely positioned, set aside Center, in terms of the whole university boundary of academics. BC: Okay, so when we talk about a university-community partnership here, we're talking about something different

that what you might talk about with a conventional university community partnership.
CS: Yes, and that is one of the perceptions that most people have had. When you say that you're from the university they automatically assume that I'm trying to do some research on your back, trying to fund somebody else out of it. No, we are totally mission oriented in terms of service. And we have tooled up over the years to provide that and we've penetrated nearly every state in America basically. BC: So you are a national concern then? CS: Yes, we are a national organization. BC: Do you have offices in other states? CS: We have affiliates and contacts in every state in the union, yes. BC: And would those affiliates and contacts be situated in universities like you are or does it depend? CS: It depends, we do more like smart bomb, SWOT analysis, sweat equity, those kinds of things. It's a case by case basis, bottom line is we look at what a community wants and then we look at how we can respond to their needs and solve their problems.

141 CS: So that gives you an idea who we are and a typical perception is to say Oh, Clem is from WVU, but really National Environmental Services Center (NESC), the name of our Center tells you that we're a service entity and not so much into the academic. I would say 95-99% of our work all focuses on service. BC: So could I even think of WVU is almost more like they're the fiduciary agents, and you all are off doing what you're doing and not really. CS: Yes, they are the signatories—BC: and they give you office space and facilities, and what about graduate students? CS: We do, we are quite tapped into the university system but our role is quite unique. But anything that happens back and forth between us and the faculty is in that mission of service. I have a graduate student who's helping with a project in Georgia. We partner with academic institutions, research institutions, community assistance providers at all levels. BC: How many projects, ongoing projects at any one time, on average, would you say the NESC is involved with? CS: We have been to over 27 states. For example, we have the National Onsite Demonstration Program, which is to demonstrate new technologies. BC: Is that like the alternative wastewater stuff in Lincoln County, it would fit within that? CS: Yeah, that realm. And we also say if you buy a car you have to change your oil every 3500 miles, and we say what do you do after you buy a car, so we help them with post installation management, and that's what we do, we try to use dollars wisely and well. By not just saying Here's ten million dollars for this project, go do whatever you want to do with it. We'll pick difficult spots, tough places, and work with communities to find a solution and what our goal is to take that model and replicate it at local, state, and regional levels, basically it's like throwing a rock in water, we want to have a ripple effect of our service.

183 BC: So at any one time, I'm trying to get a sense of what your daily work life would be like, at any one time how many projects do you have going on? CS: Right now we have between, we're in about 15 states right now, and that's only one part of it. We have phone calls coming in all the time, I speak at conferences all the time, not presenting research, but presenting ideas, concepts, we are a premier agency. I don't think there's any center in the country that does the kind of work we do, focusing on small communities of 10,000 or less. So we do conference presentations, workshops, training activities, attending conferences to get our word out. BC: OK, I have a much better sense of what this organization does now. This is actually a question for the end, but in light of what you've been talking about, how do you all fit within, I saw a recent WVU

publication in which President Hardesty was talking about community engagement, the university and community engagement. How do you all fit there? CS: We fit a big part of what he's talking about. Actually, if you look at it, we might be the, I hate to say this and don't quote me on this, understand my thinking on this, we're probably the thoroughbreds on service component of this university, with the academics supporting our service. The others are the other way, the academics first, and then the service part of it fits into, you know extension agents, they're pretty close to it too.

216 BC: I have an image in my head, and it might be cynical and mean, any maybe it's just my experience in universities, but I have this image of all the sort of rhetoric about community service being directed there, and the accolades being directed there, but the work is directed into some darker corner. CS: Yeah, and if you look at the big dollars, the academic vs. service, yeah, the service is much smaller in terms of the dollars that the university can look at in terms of their big piece, if you put a pie chart we might be a small sliver, but our impact is far reaching in terms of actual face to face people and their lives, and not so much pen and paper and a computer onto a notebook and a journal article. So we're dealing with real people and real life situations on an everyday basis. BC: It occurs to me too because the way the university rhetorically frames all of that sort of sets up who all of you sitting up here at WVU are, you know because "the" university in the form of a president wearing a robe is making these pronouncements....ok, I'm just thinking out loud now.

238 CS: The community might not be any different too, I mean typically when you think of the university you think of this professor and he's got his three grad students, and he's trying to work his way from an assistant to an associate professor to a professor. We've got nothing like that, we're all Program Coordinators, I'm a Projects Director, that's my working title, we just move on. BC: That's what I mean, the way it's framed wouldn't help the community understand that easier. CS: And I won't be surprised if that's the case here too. I've not discussed that or got that sense from them. BC: I think people generally make that assumption. When I tell people I teach in a university, they think you show up twice a week and read poetry all the time. CS: No, you're right. When I'm doing my talks, wherever appropriate I use West Virginia University, especially in community meetings. They always have feeling that if you're an academic, you can't relate to real life. I don't know the truth to that or not, but that is a perception. And then when we explain to people that we are a Center they say, Wow, we did not know that. Especially, just looking at a specific instance of Lincoln County and many others. I've worked up and down the Appalachian region, and these people don't have the capacity. And WVU has this hidden treasure.

264 BC: Don't have the capacity to— get the things they need done? CS: Yeah, I mean it's an infrastructure issue. People, there's no one who's facilitated this process in a way that it should have been facilitated. We go in as unbiased, nothing to sell people, all we're trying to do is build consensus, start you know, agreeing on things that we can agree, and we walk the community through the process and what we're also showing them is you don't have to reinvent. Most communities want to reinvent it, with some thought that they think they've, that's their invention or that they've thought through, you know, last

night. But our experience is, I've been there, I've done that, let me share my experience with you to fast track. Because we don't have all the time, we don't have all the money to be dishing it around to consultants X, Y, and A. Most of these grants have sunsets, so we try to fast track that and that's a major part of our service. We work with every type of community from poor to low income African American communities, to New Mexico, the *Colonias*, to Native American, so we have a whole range of clients. I should take that word back, not clients, but our audience. So that's in a nutshell what we do.

285 BC: Thank you for spending time on that. It seems to me that one of the terms we need to define in this assessment is "university." That really helps. CS: You could go to the WVU website, look at the strategic plan, especially the West Virginia Research Corporation. BC: I wanted to ask you that, Marshall has a Marshall University Research Corporation which is essentially the money finding arm of the university, is that the same? CS: Yes. BC: So your role in this particular project, you were brought into this project to do the assessments—well, let me have you tell me what you were brought in to do. CS: Well, I gave you what I do. BC: For this particular project. CS: For this particular project my role was to work with the community, work through the community to find an appropriate solution in terms of their wastewater infrastructure. . The wastewater infrastructure was the blinders that the community wore and that's the track they're on, but I have to pull myself back and say a lot of these other things have impacts on your wastewater infrastructure. That is not my role but I still have to look at it. So my role cannot be just someone who came to find me a technology and walk back home. If I give you a new car, I better be sure my kid knows how to drive, if my kid has a crash that she knows which insurance agent to call, she knows that if she doesn't get her inspection sticker she might get a ticket. So there are a number of pieces that feed into this, although the perception here is just to do that. My role is multifaceted, I mean, it is on paper looking at the infrastructure and providing technical solutions and all that.

314 And, you know facilitation, I run all the public meetings when I'm there. I do updates to the county commission and, you know, as part of that reporting. Is to be a technical advisor to this project, bringing to bear my experiences in other places. BC: That sort of brings me to the next two sets of questions, the stated goals of this project, and I find that once a project gets started there's what you say the goals are and you always ending up additional goals. What are the stated goals, what do you find are the stated goals, and then what are your own personal goals for this particular project. CS: Well, the stated goals, again, I might be getting a little elaborate here but towards the end my answers will be short because I'd rather let you have a little bit more information, and then towards the end we can just say refer to my earlier comment, or this comment. The stated goals again are multi-pronged. Because this project was funded by the EPA and I work with the EPA on a fairly regular basis, a number of our projects. This project did not have, in EPA's mind, the hands and legs to move on. BC: Right, and Ric said that too, that they didn't have the technical expertise to do this. CS: SO they contacted us, and I worked with the same project officer on many other projects, so we were asked to come in. The stated goals are 1) from an EPA perspective, whether it's written on paper or not, they look at me to do a certain few things for them. And they're interested in this whole concept of decentralized wastewater management, and basically a feather on their cap. To say We

went into this community, and—so they basically put me as the, although they didn't dedicate me and send me on that, but I'm like one of the missionaries, you know, go ye into all the world, so in that sense I have that indirect responsibility to EPA just from what we've done and worked in the past. As far as this project goes, like I said, this is more technical, helping this community to sort through the options. They have a number of alternatives and a number of options. But what is appropriate for this community is my goal. And is to work through people who have least education and experience related to this field. Not even in universities across the country have more than one semester of education related to this whole topic area. I went to the engineering school here years back, but what we've learned here is all in the lion's den or in the fire.

350 So we've learned that to come up with a really good infrastructure solution for these people in terms of a small piece of money but developing that as a model that can be replicated. The Mud River project, the Guyandotte, Kanawha County, Lincoln County, that's also another goal, but primarily to provide technical assistance. There area number of sub-bullets under that, you know. BC: What about you, yourself, personally, have you developed any goals for this project? CS: One of my primary goals, although that's not my role in this project and I don't direct that, is to, primarily, consensus building. That is one of my key areas of expertise also in terms of bringing people together, developing flexible and adaptive plans that can not be rigid, my way or the highway kind of a thing. It's to build consensus, look at the long term sustainability because I'm here three years and I'm gone. It is to leave that community with a capacity that they can manage themselves, ultimately that is my goal. In terms of a personal goal, it is that they will never call me again. And I've had many communities across America that I have never gotten a call from. So that is one of my personal goals, to be able work with that, develop consensus and build their capacity when I leave. BC: Well, that seems to be a shared goal, to develop this capacity within the community to make these decisions and to build a leadership infrastructure, what they need to take care of this stuff when all of you all are gone. CS: yes, and one of the key areas is building community commitment, commitment toward a goal. Which, I can tell you only from past experience, that I've been successful in doing that. Because everyone has a commitment. Talk is cheap, people will come and talk at public meetings. Commitment to action is where I fit in terms of my personal goal.

378 BC: How do you develop that, that commitment to action? CS: Most people, this is where I have trouble, even with project leaders, is because they all look at deadlines and timelines on a piece of paper. Number one is to be flexible. Number two is to be inclusive. Number three is to state it very clearly to the decision makers, that this is the vision. When you have a clear vision it's easy to develop a commitment. They're for it or they're not for it. But most communities, whatever the issue, does not have a clear vision. When there's no clarity in vision, forget your commitment. And a couple of things, consensus, being inclusive. You can go through the entire process and find out that some person that you didn't include in the process will throw in a wrench in the end. So I believe that those that agree with me and disagree with me still have to be around the table. And we'll sort through disagreements, we will build on mutual blocks of interest. That's what I do. I can give you an example in Preston Kentucky, that's Bath County,

near Morehead, when we started, nobody else was around the table. Now the whole community's behind us. And I also work through Sparkplugs. I look for key leaders in the community, I can't do it all, they go and light up the fire. All they do is put the spark and the fire lights up. So there are a number of ways, I don't have a crystal clear answer to it. You know, once you see what the landscape is you decide whether you need a four wheel drive or a bicycle. That kind of a thing. But vision, commitment, will. Is there political will? Talk about that. One size does not fit all but there are some common themes that we can thread in terms of moving them. And the other piece too is my first part is not moving the wastewater. My community efforts are based on moving people's minds. When I can move people's minds, I have come a long way in accomplishing my second part of the goal, to look at the actual technical part of the goal. That's where I focus.

406 END SIDE ONE, TAPE ONE

BEGIN SIDE TWO, TAPE ONE.

003 BC: Have you seen movement yet? I'm going to start talking specifically about the partnership here. What sort of movement have you seen at this point? CS: With? BC: Lincoln County. The Lincoln County project. CS: Okay, when you talk about Lincoln County are you talking about who in Lincoln County? BC: That's actually a really good question, let's start there. Who are the stakeholders, for you, who are your constituents in Lincoln County? CS: Well, my financial constituent is the Lincoln County Commission, they are subcontracted with us so I have certain obligations to them. I also have a personal reputation, a professional reputation in the community. And of course Ric plays this role of coordinating all these things, so I have different roles. BC: You were talking about one of the key problems you have working across communities has to do with taking ownership, or the expectation that you will take ownership, of their problems. CS: Yeah, that is one of the main problems that we as community assistance providers, we start owning their problems. The best way to send someone to get a cure, a medical example would be, visibly seeing someone's eye red, but unless that person acknowledges that they have an issue, I can talk to you black and blue and show you a mirror, and even that. But with most assistance providers, and I tell communities, the first thing is you have to understand that you have a problem. BC: So in this case, the contamination in the watershed, you need to understand that you have contamination in the watershed. CS: Exactly. And then what we as assistance providers do, which is also something that hurts the community, is we never let them design and define their own destiny.

047 We have our work plans, our way of doing things and we say this is the best way to do it, but ultimately the way we've seen success is to let a community define and design its own destiny. When we leave, they say we made this decision, we're happy with it. It won't be Tammy's decision or Clem's, or Ric's, or Nona's. It is something they have to live with. BC: And they talked about that too, Nona and Ric, in that community if

people don't feel like they have full ownership as soon as the systems get installed and everyone walks away the parts are going to end up at the flea market, it's just the nature of that community. CS: Ownership is key. But there are instruments in place to make sure that doesn't happen. You know, there's no free lunch. You get a free system you're going to say Hey, if I drive on I-79 there are certain rules I have to follow. Just because I own a car doesn't mean that I can drive however I want, no. This whole issue of after you buy a car, what do you do. Post installation practices and management. You say, ok, we're going to have a planned arrangement to deal with the future. You can't predict it, but you can say we'll install certain elements and see how it goes. BC: So how would you set up a project like this and establish a planned arrangement so that these parts don't end up in a flea market? CS: Well, let me give you an example. We put the system in , the people who get the system give us complete access to the system. We don't own the system, but we get access to it whenever we want. An easement agreement.

88 BC: I assume people are willing to do that, in exchange for the system. CS: They are, they are. People also have to say just like I go every year and get my inspection sticker, I'll do an annual maintenance, I'll send it to the health department, whoever that entity is, we haven't drawn all those lines yet. So we know that system's in place. If we're going to transfer property we've got to notify the health department, they'll have to do an inspection, make sure that system is current. BC: Transfer property? Oh, like if the place gets sold? CS: Yeah. There are a number of instruments and we've done this before. BC: So easements, stuff like that. CS: Yeah, yeah. We don't have to really tie people down, covenants you know, we're not affecting property rights in any way, we're not saying we'll be snooping with a camera, no. We're just saying you be a responsible steward. And also have people understand that this is an asset. People think that just because this is buried and underground it isn't an asset. This is asset management, some people don't even have cars that are as expensive as this system, their homes aren't even as expensive as these systems. So it is an asset. So circling that whole thing back, education and outreach is a key component of this project.

112 So it's like listening to, I don't know what radio station you listen to there in Charleston, maybe it's 106.5, okay but typically what do with radio stations, it's pahst (?) repetition, you know you've got to repeat the ten in a row songs, within the next hour you've got to repeat the same ten in a row songs, just mixed and matched. So that's the outreach and education, it has to be really drummed through to the community. Most people are comfortable with information that helps them understand the issues. They don't, just like you go buy a car, I want to know is it four wheel drive, does it have five seats, can I put my car seat in the back, I don't say how many cams it has, what kind of an exhaust system it has, you know. So we also overrate information delivery to the stakeholders. I'm not saying withhold information, just give enough and no more. Because the more we run our mouths, the more we get into trouble. Some of these we don't have answers to, so there's no point. BC: I see. Opening up an issue you can't address? CS: Yes, you can't address. And I've seen this, and I don't mean to say, in all my conversation I say this with all humility, I mean there are a lot of people who have gone before me and know a lot, I'm just sharing my experience. But these are some of the common mistakes that we do, we own their problems, we try to fit in every agenda. BC: When you say

“own their problems,” now you’re talking generally about your experience working with communities, what exactly do you mean by “own their problem?” Well, let’s go back to this, would you mean in this particular situation the problem of wastewater in Lincoln County then becomes your own problem? I don’t know what you mean when you say “own their problems.” CS: Well, when you own a problem, you’re more excited and impacted about this issue than the community itself. You’re supposed to excite, help the community understand the impact. BC: Oh, I see what you’re saying, so you care more about it than they do. CS: Yeah, that’s not a right way to do things. Leading a horse to water is one thing but a horse has to drink it or else it’ll be thirsty forever.

149 BC: So you see that a lot, where a few people in charge, or anyway where you’re expected to be emotionally involved in—CS: yeah. BC: What are some of the other kind of classic community partnership problems that you’ve seen in the past. CS: Another is perceptions. People come with a lot of perceptions. I like to talk with analogies. I’ll give you another one, when you think of eating a banana, what color comes to mind. BC: How about apples, I can’t stand bananas. CS: Okay, when I think of eating a banana, a banana always looks yellow to me. Okay. But I’m really not eating the yellow part. And it’s very common, especially in small, well knit communities, people have all kinds of perceptions. A perfect example is about a week and a half ago I was over at the community and the one common perception is, well there are many – interruption – there are many levels of perceptions people have. You know, my system works, I’m fine. As long as nothing’s happening to me, you know I’ve drank from this well for thirty years, my grandfather was fine. But the realities are different. There are public health realities, regulatory realities. The regulatory realities are you can’t have a 500 gallon metal tank anymore, that’s the regulatory reality. But people say it worked, it works.

182 BC: Nona talked about that, though, she addressed that. She talked about whenever people find themselves in these tight spots because they live on the edge in a number of ways, they live in fear of someone coming to their house and saying, you’re not in compliance and for that reason, this is going to happen. CS: Yeah, hearsay. They just, someone will start a rumor, you know these guys from the county commission are really trying to get around this problem by getting all this money in and, I mean I’ve been amazed at all of the stuff I’ve heard in the past year. BC: But that’s one of the big problems in these, I always call them stressed communities, it’s like post traumatic stress stuff, people get used to just sort of reacting to whatever they see or hear or think. CS: And I’ll tell you, I will give you a hundred bucks if you can find me a community that doesn’t have any perceptions, even as an individual I have perceptions and I have to change it. We perceive people just by the looks, what they’re driving, so it’s a neurological response. So that’s one of the major issues. And a lot of these things, I think the biggest expectation is they don’t give it enough time to work through the process. The biggest problem is that they’re not patient enough, they don’t give it enough time, it has to be at the pace of the community, it has to be decided by the community. We try to push them through, nudge them, nudge them, nudge them, and then all of a sudden they say How the heck did I get to this place, I’m not jumping.

207 It is actually an experience like that. They have to take the plunge, but if they don't walk to the cliff and we slowly nudge and manipulate and all these things, it'll backfire on this whole process. So it's time. Another thing is time. If you just say, oh no, this is my EPA grant, and I'm going to do it this way and that's all I have. And those kinds of people shouldn't take those responsibilities. BC: What about, and I'm thinking about something that both Nona and Ric were talking about, not that all communities don't have struggles, but it seems to me that communities like Lincoln County have a long history of colonialism almost, CS: Distrust. BC: Yeah, so how do you address that, if things don't start happening at a particular period in time. Like for instance, the system that was to have been installed in July or August, originally they were talking about the goal was to get one installed. If those things don't happen, and sometimes they won't, how do you address that with a community that's got a history of distrust. CS: Communicate them with contingencies, okay. Communicate a contingency and don't say absolutes, we're going to have a system in July. I had to wait for two years in Georgia. I had everything ready. It rained. For two years. They had four years of drought and then it rained for two years. What am I supposed to do? That's also the relationship you have with the community as an outreach person. I had this two years, we just finished a 150 home system in Kentucky, walked through those people, gave them the time, but we also told them "hey listen." See, they have to trust me. I have to earn their trust. And when you asked what are some of the key characteristics I said trust. When they don't trust me, you can blame it on Tom, Dick, and Harry and all that, but as the point person, I always focus on earning the trust. I won't go to all 100 people, but I'll go to the spark plugs and say hey. And you can quote the person that said this, you know Clem's, you know how they're Appalachian too, so this gentleman said "Clem ain't got no dog in the fight." So that's the transparency we want to have in the community. We'll have gaffs, we'll goof up here and there and we can't keep up with every set timeline, but that shouldn't, you know. So yeah, so July. How is it that we impose everything, we've got to be open, see I'm straightforward with people and not in a rude sense you might think I'm a rude guy, I'm not at all. I would tell people, this is honestly the truth, guys, and one of my colleague and I, we've dealt with this.

247 Three hours from now we're on a plane, we're going back home. You're going to be stuck with this problem, fellas. We're here to help. Work with us on something that we can agree upon and let's build on that, that's all. You cannot say, another thing too, you cannot play both sides of the game. We should all be seen as one team. And a lot of times, you know, the heat is turned up on that local person in that community, they immediately say Those guys over there. You answer and say, No, Hey, you know this is the situation. 99 out of 100 times the people that I've met, all kinds of people and you know before I go in they'll say watch out for those guys, they don't like these kind of people. But 99 out of 100 times people want to do the right thing. They cannot also, they might have forgiven but they cannot forget some of their past experiences. So it is our skill as facilitators to work up through that process. BC: Could you give me a concrete example of how you might utilize that skill, in a particular situation. CS: Of, of? BC: Of earning trust, perhaps, gaining trust, working through that stuff that you were just talking about. CS: Transparency. Say for example that Georgia, I told them my goal is to get this system in but I don't control everything. And there are many other contingencies, see

it's not just one thing, you check this and you've got the system in. I said there are a lot of pieces that have to come together. Up front. Be up front and say hey, ok, so what if it's from June to September and it rained from June to September in Georgia. I have found that as long as I'm transparent and open, even if they disagree with me I still tell them exactly the way it is and what they can anticipate. Exactly what I have in my mind.

274 I've had much more success than trying to manipulate people per se. We mind read a lot, don't we? We say, oh if I say this, what will they say? No. I do ethics training here, for the certification and one of Benjamin Franklin says, if you don't lie about anything you don't have to remember anything. So that's the thing, transparency, transparency, transparency. And peel off perceptions. Go meet with them, spend countless hours. I spend countless hours with the communities. Late at night, 10:30 at night, I'll still hang out. I'll go to community dinners, you just cannot keep this just project focused. You've got to get a little bit involved in their lives. But those are skills you acquire as you go along. BC: What, let's take what's working well in this particular project and then what's not working well in this particular project. Because one of the comments that's come up with the quarterly reports is this idea of communication. And I thought about that while you were talking about transparency, that there's some kind of a communication issue between Morgantown, Lincoln County, at least they seem to think so in Lincoln County. CS: It was in the quarterly report? BC: It's in the quarterly reports, differences in communication. CS: Can I see that? *(BC hands CS two quarterly reports in which communication and other kinds of partnership problems are cited under "Difficulties Encountered.")* BC: This is the April June report, there are a number of different paradigms, etc, and there's another one in the first report under "Difficulties Encountered" but it all seems to be about communication. CS: Yeah, it's unfortunate that it's termed as communication, I won't term it so much as communication, it's all the pieces falling in place. We're building, one day at a time. If you have a building you need windows, doors, plumbing, you need all the different pieces—knock at the door, pause in tape. BC: You were saying we're building and some of those pieces take a while to accumulate, you were using the metaphor of building a house. CS: Yeah, building a house. And you know we're changing plans. You cannot tell me, unless it's one of those Ford Motor Companies that has a line that goes straight down where the robots put it together, we're talking about community here. And option for failure should be zero. And delay doesn't mean it is bad communication. Delay sometimes helps us understand issues, put things in context, and make it more viable.

310 See, what I don't like to do is just in the interest of time take ten steps forward and nine steps back. And that is a much bigger issue with community. They'll see all these things and the first thing they'll see is failure because we've taken ten steps back. So to me, I won't frame it as communication. BC: You see it, that this isn't a communication problem, it's unrealistic expectations of the process? Or—CS: Yeah, yeah. We put on ourselves. And those that have not been in this situation before might not necessarily understand the process of how you build a house. I've never built a car before, you tell me to build a car my first reaction will be when do I have a car, when do I want a car? And I would go to a calendar and say I will have this, this, this, this, built.

But I'm not sure if I'll have the muffler on time, sure if the frame is done on time. So there are a lot of intricacies that go into any building. I'm using building in a very global sense. I'm pretty convinced that it's not an issue of communication, it's a matter of going through the motions, going through the process, and learning from each other in terms of what we can share. And we all have to stand united. Even this perception, I didn't realize, I don't know who this was written to, is it EPA? BC: Yeah, I think so. CS: Yeah, that doesn't show a good, you know, to those that are funding, that we are a team. I'm even surprised that that was written there. But, set that aside, but the issue of communication is not how I see it because some of these things take time. And this is the issue of real life. If all I'm doing is writing a paper, I can put a paper together in two days. And it goes to a publication, and all I can do is be criticized for making such wrong assumptions and I'm done. But here I'm dealing with real people. I have no room, that's one thing I will not give up, my goal is zero room for error. That's my hope, that's what I've always strived for, it's one of my personal goals. So that sometimes gets tagged as communication.

343 If you were, thirty years from now and you're a wizened old man sitting across the table from someone who's starting out doing the work you've been doing your whole life, how would you tell them to avoid these kinds of, because it is communication in a sense, it's assumptions. Even if it's not, I don't know, giving an answer to a question, the idea that people at this point, what is it a year into the process, and people still not quite understand their roles, or not quite understand how the other is proceeding, that's kind of a communication struggle, so how would you in starting programs like this, if you were starting over again, how would you say to Ric and the county commissioners, this is what you need to expect, or did you do that? CS: Yes, well I go back to expectations. Things take time. I have been there. Some of my projects takes five to seven years. That's the pace in which the typical community project does take anywhere from 5 – 7 years. (*Phone rings.*) BC: This project has a three-year window, correct? CS: Yes, it's a tough one. So what's happening is just to fit it in a three year window we're putting all these false expectations, not only on the community people, we're putting false expectations, forcing expectations on people. I have more than a decade worked with communities and typically we're able to finish things near the end of the fourth, or close to the fifth year. And I'm not saying that's the way it fits, because people need to absorb things, people need to digest things. All of a sudden if I say I want your property, I found this. This is a process where we shepherd everything together, there's no one left behind in that process. BC: SO the very timeline of this project starts things off a little funky. CS: Actually, I was the one that said, last year, man, you guys are going to have to think about no-cost extension, Peel extend it. But that is the reality that we've got to face. That we are squeezing ourselves in a corner and saying, you know, if we complain, we have to do the intra-examination, and the inter-examination. And this is not aimed at any particular person, I'm talking about processes here, and processes work well. Again, my metaphor here would be we're not forcing our selves here birthing a baby. I call community processes birthing an elephant. It's a lot longer. Because of the twists and turns and ups and downs we have to go through. If I had a crystal ball, I could go through that thing like that. But we can't foretell either.

382 BC: Do you think there's a packet of information, and I don't mean that literally, but is there a bunch of stuff you can do up front in a community project, to ameliorate those expectations to some extent. CS: People go by timelines. You can never drop timelines. BC: So once they defined it as three years, that's what they expect. CS: Yeah, most people's point of reference is time. I come to work at 9, I leave at 5, I eat at noon, so everything is time based in our response system and I'm not blaming anyone for that. Even with EPA we said, ok we'll do this in three years, but then once we see, you see there's the optimistic part to community projects and then there's the realistic part. A lot of times they're about 180. And we have to be flexible, adaptive, and move on. Ultimately focusing on that one light at the end of the tunnel. There will be darkness, we will be bumping up against each other, but that's not the goal. The goal is to be on the other side. BC: I guess I'll just get to your own personal involvement and frustrations with this project. Have there been any particular frustrations for you in this project that you would offer up for others to avoid in the future. CS: It's not frustration, what I would term it, again, I have to be careful, the issue of experience. In terms of running these projects. You're asking me in general, when facilitators have run these projects before they can anticipate the pot holes, the red lights.

406 END SIDE TWO, TAPE ONE

000 BEGIN SIDE ONE, TAPE TWO

002 CS: Key and critical, and moving forward. And I've been, see I've worked with a number of people. Different personalities and different education levels, and all kinds of people across the country on these kinds of projects, so to me it's not a frustration, it's part of the game. That is the beauty about how you can work in communities. It cannot be about something between me and somebody else. The ultimate goal is that community, that's all I'm interested in. The focus is on that community, it is not all about me. BC: Well, let's bring it to a close then there, and let me ask you this. Based on the experience you have had on this project and on other projects, what are the most important things that people in your position need to keep in mind when they're working with communities like Lincoln County, other sort of low income, mistrustful type communities that we were talking about earlier. What do people need to know when they go into these communities? CS: I start with encouraging people. One important piece that we forget. We always go with the negative. I always try to catch people doing things right rather than what they do wrong. Even my kid. BC: I was just going to say it works better with students too.

036 CS: Right, so one of my social communication principles are I'd rather catch you doing things right rather than point at you for doing something wrong. So that is one element of encouragement that gives homeowners in terms of lifting them up. Number two is, I'm open and honest. I tell them the way it is. I don't manipulate them, yeah I

might encourage them, I might use metaphors, that doesn't mean that I'm some talking salesman. I want them to feel, I want them to own this. I want to develop a commitment. And I also want to tell people you are the ones who are going to define and design their destiny. BC: Empowering them—CS: Empowerment. Community empowerment. And I'm also open to the politicians. Sometimes they don't like it. Do you have the political will to do something? You can just come here to the meeting and walk away. I'll ask them. Very candidly. I won't set one against the other. I'll go meet with them, I'll say Mr. X, you know, you're talking about this, are you committed to this cause? Because don't waste my time. So that's there. And you know, I play whatever role's my role. I don't assume, I don't try to supercede. I forget my experience when it comes to, it is a natural thing, I don't wear it on my sleeve. I just do what I have to do and move on. If there are issues to be resolved I talk to the appropriate people.

067 END OF INTERVIEW

APPENDIX E: VANDIVORT INTERVIEW TAPE LOG

Date: 19 August 2006
Project: Qualitative Assessment: Left Fork of the Mud River Decentralized Wastewater Demonstration Project (Wall Service Award Project)
Interviewer: Elizabeth Campbell
Tape No. QA-LFMR-TV-081906

TAPE LOG/INDEX

Interviewee: Tamara Vandivort
Location: West Virginia Water Research Institute
Address: PO Box 6064
West Virginia University, Morgantown, WV 26506
Telephone: 304.293.2867
Consent: Attached

Summary description of interview context and content:

NOTE: WHAT FOLLOWS IS A VERY CLOSE TRANSCRIPTION OF THE AUDIOTAPED INTERVIEW BUT IT IS **NOT** A COMPLETE, WORD FOR WORD TRANSCRIPTION. QUOTATIONS SHOULD NOT BE DRAWN FROM THIS DOCUMENT UNLESS THEY ARE SPECIFICALLY MARKED WITH QUOTATION MARKS. TO PULL COMPLETE QUOTATIONS FROM THIS INTERVIEW, RETURN TO THE AUDIO TAPE AND TRANSCRIBE DIRECTLY FROM THE TAPE.

Equipment:

Audiotape Recorder: Marantz PMD 430 cassette
Microphone: Electro Voice MC 150 (omnidirectional)

Tape 1 of 2
side 1 = 30 minutes; side 2 = 30 minutes

Tape 2 of 2
side 1 = 12 minutes; side 2 = 0 minutes

Counter # Summary

000 Start of Interview. TAG

010 BC: As you may have noticed, I have set of questions grouped around several themes. I'm trying to ask every one the same set of questions because one of the things that usually emerges in a lot of these things is that people define things differently, come from different perspectives, so by trying to get a sense of how everyone thinks about the different angles you can often get to the, well some of the things that are working and some of the things that aren't. TV: Do you want me to give you some overview about who we are and what we do? Would that be a good way to start? BC: Yes, let's start that way. So what exactly is—TV: the Water Research Institute. BC: Thank you. TV: You know we're funded by the USGS. Every state and territory has a Water Research Institute. West Virginia's is located here, Paul Ziemkiewicz is the director. Part of the mission is to take those USGS funds, develop a request for proposals that anyone at any state institution can apply to. Typically aimed at young professors to get them something under their belts before they move on to more competitive grants. BC: Oh, I see, a sort of post-doc, kind of, opportunity. TV: Yes, so that's the WRI's function. Not state government per se, but housed in universities. Specific mission is to encourage water research. Within the Institute we have programs because another mission is to be able to launch other research from the seed money that USGS provides. And Paul's been very instrumental in getting other funds from other sources.

066 We do mine land reclamation, so we have the National Mine Land Reclamation Center, we work with the Department of Environmental Protection (DEP), they can provide 319 money, flow through money from the EPA to the state for environmental remediation. Some of our staff design passive treatment systems for some of these mine lands. We have the Coal Combustion Byproducts Recycling Commission, I manage that. It's funded by the Department of Energy. It looks for ways to reuse fly ash produced by burning coal at electrical plants. That's a national program. We have 52 projects since 1999, they use this fly ash for everything from road base materials, they're looking for large volume and innovative uses. They're using it for transmission poles, in place of wooden telephone poles, countertops, tiles, all kinds of interesting things. BC: Are there, this is totally unrelated to what we're talking about but I'm curious, are there toxins within that fly ash that you'd need to neutralize before you could actually use it? TC: Well, the fly ash of today is so much different than the fly ash of the past. The electric companies have to be so much more stringent when they burn coal, mercury, sulfur, so it's a much cleaner product at the end, but all of our researchers are characterizing what's in that ash to make sure it's safe to use. As far as things being bound up, temperature, production. BC: I had forgotten that it would be a cleaner product to begin with. TV: So when I heard on the news about a fly ash pile that leached down into a neighborhood near Pittsburgh about a year ago, that would have been a much different kind of fly ash than what we'd see today.

108 BC: How does the Water Research Institute work into the Lincoln County project? TV: DO you want me to give you the history on how we're involved with that? BC: Yes, please. TV: From what I understand, there was a professor that used to work in Geology, she was on my thesis committee, she worked with NESCC (National Environmental Services Center) Patricia Miller, she apparently wrote a proposal for EPA that was funded and then she left Extension, Ric MacDowell works for Extension, and the

proposal listed NESC and the WVVRI, so when she left Paul Ziemkiewicz and the director of NESC were contacted to get involved with the work. And so it was about a year after the fact that we got involved. Paul asked me to work on it from our end and Clement was asked to work on it from NESC. So my involvement, the Water Research Institute, is on the component, which by the way Clement and I actually worked with Ric to redo the statement of work to get it more manageable, because the original proposal was very optimistic, aggressive, you know we just didn't see how it could all happen within the budget that was planned. And it went from one person to three people doing different pieces. So Clement and I worked with Ric, got a new statement of work, and my piece is handling the water quality monitoring. So we had taken a role initially of advising Lincoln County on the right contractors to take water samples, helping to find a lab to do the analysis—BC: the Teays Valley lab—TV: Right, but what we ended up doing because we do water quality sampling as a norm, we went ahead and volunteered within our budget to do quarterly sampling with our staff. BC: Ric mentioned that, you're down there once a quarter to do sampling, at least. TV: At least.

144 Right, and then between the quarterly sampling Ric is taking grab samples for e. coli. That's when the lab provides sample bottles and they go out to certain places that we have designated the sampling points, and we approach this as a Biohazard environment because the e. coli and oviform counts are high. So when we sample, we hope Ric's doing the same, we wear gloves—BC: Yeah, he said that they were pretty extensively trained. TV: And then the samples have to be kept on ice and taken to the Teays Valley lab within a certain period of time. BC: Well, of course, because then the samples would jump, wouldn't they. Provide them a nice little warm and still environment—TV: Because that bacteria's a living culture. In order to get the most accurate counts you get the sample quickly, you get it on ice, you get it to the lab within four hours of collection. We have actually tag teamed this in the past. We've had enough sampling points that, we always meet up with Ric or Nona because they know the community, they know the people, and we go in, and take samples for four hours, then one person takes it to Teays Valley and the rest of us keep taking samples, then we take it to Teays Valley and drop it off. The last time we actually got it all done in one stretch. Other times it's taken longer. BC: So there's some orchestration involved in this. TV: There's a lot of coordination.

169 BC: And I imagine you've done work like this in the past, with other communities. TV: I have. BC: So now I know how you got involved in this project, and why. Do you have a particular interest in this project? TV: I do have a particular interest in this project. I'm an environmental geologist by training, and I do a lot of volunteer work with communities, very similar projects, in terms of water quality monitoring, making sure they know what kinds of wastewater systems they need to put in place. I used to work in NESC myself, so I was on the wastewater side of the fence for four years right after getting my Master's. So I can wear both hats. BC: Ok, so you have a unique vision of this whole project, I would imagine. TV: I think what's interesting is that there are some similarities in communities and people no matter where they are in terms of dealing with projects like this, in terms of their enthusiasm or lack thereof, depending on where you are in the process. There seems to be a lot of hurdles in understanding and communications, to get over the fence. And communications is a tricky one. It's easy

for someone who works with certain technologies on a daily basis to not, to have to think about someone who's never heard of it, the kind of wording you have to use. I'll give you the prime example. I work with a community in Preston County. BC: I'm new to West Virginia. TV: Ok, just north of here. On the Pennsylvania line next to Mon county. But I work with a community there, we were talking about, it's a lake community, Lake of Woods, just a small man-made lake from the thirties, a 100 acre lake. But there are 60 homes right around it. Small lots. Mountain on the backside, so it's very difficult for them to have enough room. Most of the lots can't handle standard septic systems so they've had to use alternative wastewater systems. And we were talking about additional treatment, and there's an ultraviolet system, and the first thing that someone said when I said ultraviolet is "Well, we don't get enough sun up here."

202 And it's like, oh, no. It has nothing to do with the sun. It's ultraviolet lights, based on electricity, not sunshine. But you just name it and the communications circle gets really convoluted. BC: So there's a knowledge base that you need to even ask the right questions. TV: Or even to be able to explain things. In this project we have relied on diagrams and PowerPoint presentations, and posters. Because all these different wastewater technologies are different. Components, sizes, they use different media. And that's really Clement's side of the project. But then on my side with the water quality, like when I say grab sample, it's just something that's second nature to me. BC: Yes, and I'm sure that when you saw my questions, I don't even know enough about your field to know what definitions we need to ask for, like grab sample, I never would have thought of that except that when you said grab sample I said What? What's that? Let's just jump right into it. As long as we're talking about communications, that's one of the things that I'm sure you've seen on the quarterly reports that has been pointed out as problematic. There are some challenges with regards to communications. What do you see? Do you see any of that? You and Clem both have significant experience working with these communities. What are some of the challenges, communication challenges that you run into in projects like this, either generally or specifically or both?

228 TV: Ok, in a lot of projects I've worked with I've kind of been the project manager, the technical person, the all in one doing this. So if I'm working directly with the community from the get-go, or a subset of the community that may be the sparkplugs, you know the people that really want to get things up to speed, then I know what's transpired. So there's no second-guessing, nothing of that nature. What makes this project a little more of a challenge is we have a number of players. There's Clement on the wastewater side, me on the water side, Ric MacDowell who's right down there with the community. So we don't necessarily know what the interactions with the community are, exactly. We've gone to a couple of community meetings, but as far as what transpires at those meetings, we really don't know, so we're kind of in the dark on that, so we don't really know what level the community is at in terms of their understanding or acceptance of the project. And I'm not saying that's good or bad, it's just a fact. BC: It's a level of information that you don't have because of the nature of the way this project is designed, or—TV: or however it's working out, yeah. So we, Clem and I are in an advisory role, but what makes it difficult is that we aren't necessarily advising the community, we've been to a couple of community meetings where we explain things, but we're pretty much advising

Ric, who is talking to the community or the county commission, so you have these...BC: layers and intersections, yeah—TV: Yeah, which just adds a little bit of complexity and can add confusion. It may be that we on this end, know exactly what we're doing and why, but we may not be able to, we try to explain, but another thing I think to keep in mind is that a lot of what we have learned comes from numerous years of education and training.

255 It's been expressed to us that there's a certain level of trust that has to be gained from the community. And we're geographically removed. We're way up here, it's hard to tell what the community thinks of us because we really don't have that direct interaction. I don't know if we just look like—BC: but everybody loves WVU, don't they? TV: I don't know, do we look like a couple of eggheads sitting up in some remote northern part of the state? We don't know. And we try to offer support to Ric, but we don't always know if the level of support we're offering is sufficient for the community, so we're sort of removed, a layer removed. BC: So there's a layer of removal, and it sounds to me like there's a layer of information that you feel like, I imagine it would be hard to proceed, I don't want to say confidently, but I imagine it would be hard. I'm just thinking, I've done community projects as well, and I'm just thinking about how difficult it would be to function in an environment where you weren't exactly sure where you stood. Am I assessing that properly? TV: You are, I think it's gotten better over time, but just to give you an example. April, it would have been April 2005 Clem and I went down for the first site visit and then the first community meeting. There were, I believe, 8 people from the community there, and Ric indicated they were the real movers and shakers of this community. And most of them had systems in place. They didn't need them, but they were good, influential citizens of the community. It just seemed like a very negative kind of atmosphere. I finally asked each one of them, how many people do you think you could get on board with this project? Three? And they just sat there. One? And they said, maybe. Here's 8 people that think they might be able to get 8 people to accept the project in the community. And that kind of surprised me, that a year into the project it was still that rigid, closed.

279 BC: Do you think it's the nature of that community, I don't know much about it. Is it an Appalachian response? What do you think? TV: I don't know, maybe Ric could answer more about that. It's definitely the nature of that community. What we did, too, we drove through the community. Ric drove us through but didn't stop the car, we didn't get out. And Nona was with us too, I believe, if I recall correctly. But we were not, we were concerned, in terms of safety, to even get out because it was so closed. And they weren't open to having us there. And Clem and I met with Ric, and back and forth, so we were there about three days trying to figure out what to do. And I remembered something that had worked in Preston County, which was, people have this interpretation of wastewater, that they flush the toilet and it's gone. It's out of sight, it works. They will all say that my system works fine because in their mind if it goes out of their house, it's fine. What happens after that they don't give a thought to. So, but, and a lot of times they don't care so much for their own health but they sure care about their grandkids. So the link that I have found that works is to have people privately get their wells sampled, e. coli is now being considered the constituent to measure rather than fecal because it's deemed more

likely to have human source. So, and also for nitrates, blue baby syndrome, the methyl--, you know if you have more than 10 milligrams per liter it messes with the oxygen levels in baby's blood. So in Preston County when I would get people to test their wells, I would get these anonymous phone calls, and they'd say, now how many coliforms is it ok to have in your drinking water and I'd say None. And they'd go "hmmnn. Okay, what do I do about it?" So we used this approach and it worked great. These people were really concerned about their grandchildren. So Ric was instrumental in getting the sample bottles, helping them get the samples. We provided information on what they needed to do, but he was on the ground with that community. And I believe they got 50 people. BC: Yeah, he's got a long history in that community, he and Nona both.

312 TV: Yeah, and then that opened up everything. When the majority came back contaminated all of a sudden people thought maybe they should get involved. And ever since it has been wonderful. The people have been really friendly, we get out of the car and talk to them, I mean it has been not been an issue at all. But to get through that hurdle. BC: So you really had to make it very personally relevant. TV: Right. And I've seen that happen over and over, when you hit that button. BC: That's a perfect example of how a successful community university partnership works. You know the way to get people interested through your own experience, and Ric knows how to get people to play because of his experience. TV: And it's critical to have him there because we're up here. We're not in that community, they don't know us from Adam so it's critical that he be on the ground there. I think the difficulty though is somehow trying to get, I think it's a geographical distance issue. BC: The term "proximity" kept coming up when I was talking to Ric and Nona. TV: Yep, and we Email, we talk on the phone, but a project like this almost needs monthly face to face, I think, to really make it mesh a whole lot better. And we haven't had quite that much interaction. And it's a new area, as far as the technical aspects, it's a new area for Ric, it's a new community for us. And people can be the same in a lot of ways, but they can also have their own unique community aspects. BC: You know, one of the areas of questions, and now we're just jumping all over so let's go with it, one of the areas of questions is, if you were telling other people how to do this work, what would you say to them, what recommendations would you make to future researchers? And one of the things that both Ric and Nona said independently is that there's got to be some kind of regular get together, whether it's in the beginning where you go away for a retreat, good luck getting the funding for that. And that's one of the problems too, where I find that the rubber doesn't always meet the road in terms of community engagement in universities, because the university wants the community engagement but they don't understand the relationship building that goes into that. And there's no money for relationship building. You know, you can't get a grant to go hang out with people for a month and get to know them. But that's a recommendation that you would make to future researchers as well. TV: Yeah, and it has to be face to face, it just doesn't work as well any other way.

342 And in this project it was trimmed down financially as lean as possible to get the maximum amount of money into the systems that will go into this community. Also, there's money that has to go into the monitoring because EPA has specifically said in the agreement that they want to see environmental monitoring before and after because they

want to see the impact. BC: I imagine EPA has specific things they want you to test for. TV: That's really our discretion, but they're pretty standard when it comes to this kind of project. A lot of what I would do or Clem would do is repetitive from watershed to watershed and community to community. There's a lot of standardization on that. But you have different players in every game. So I think it can be difficult sometimes for people involved in a project to trust the level of expertise that researchers have. There's a lot of time spent proving ourselves in this project. Which takes a lot of time away from doing the work on the project, we're having to go back and prove, over and over, and over, we know what we're doing. BC: You know, that's something I wondered about as well. I don't know Lincoln County well, and both Ric and Nona said this, Nona especially because she lived in the Left Fork, it seems to me—I'll back up even more. When I first moved to West Virginia a year ago, the image that kept coming to my mind was colonies, Africa, an African State. And in many ways it's got that history of being stripped for resources and being owned by out of state concerns, and in my field there's this whole area of postcolonial studies which gets into the mindset of postcolonial people, and I kept thinking of West Virginia. Lincoln County seems that way, there's a sense of intense distrust and suspicion, more so than that Appalachian norm and I wonder how, do you see the dynamic of Lincoln County as unique in any way, is it different than other places you've worked in?

371 TV: You know, the folks are really bright, intelligent people, but I think, I haven't lived there to know, I'm relying on Ric and the history that he's provided, he's indicated that there's a higher level of distrust than normal in the area because they've been promised things from the government that haven't come through. That may make it unique in some way. But you know I have worked in communities where the people are very educated, the homes are second homes, they're doctors, they're lawyers. And they're just as hard to convince as what I've seen in Lincoln County. In their case (other communities) it's because they don't want to part with their brass, they'd rather spend it on a new car than on a wastewater treatment system. So the education, as far as what they need to do and why, is the same straight across the board. Whether they have a PhD or a 6th grade education. BC: It's just something that people just don't want to spend time, energy, and money on? TV: Yep. BC: That's interesting. That's a perspective I'd never considered. TV: Yep, it just blows my mind. In this one community, some of the wealthiest people are the ones lagging the most in getting their system up to speed. BC: That's interesting. TV: And, West Virginia Health Departments don't have any teeth. They permit systems, they go out and look at lots, whatever, if someone doesn't have a system and someone complains about it, the health department can write them a letter, or try and fine them a few hundred dollars, but they're not going to throw that person in jail, or follow through to get that fine money. And as long as there's no enforcement, teeth, the incentive goes way down. I've had a case where a sister complained about a brother right next door. She's the one that finally turned him in. And he gets a letter, and he gets mad, Who tattled on me? I'm not going to tell you it was your sister. (Laughs.) So in a lot of ways there are no differences. I think another thing that makes this project, see I'm not sure how many projects like this Ric's been involved in, I've never really talked to him about it, but one thing as project manager that I do on a regular basis that is tricky, and I'm sure Ric has to face this, struggle with it, is trying to keep up with the multiple

bosses that we have. The money comes from EPA, so there has to be EPA criteria met, and just meeting the work plan, going through the things that they expect us to do. Then there's the county commissioners, because they're the ones the money went to and they feel like they're the boss. So there's that layer. And then, all three of us are university employees. So we have our own respective departments in the university that's the boss. So it's keeping three agencies, three entities happy.

407 END SIDE ONE, TAPE ONE.

000 BEGIN SIDE TWO, TAPE ONE

002 TV: And I can see what Ric is having to cope with. And it's not easy. And nobody is going to be 100% happy all the time. But it's a matter of being able to tell people why you have to do things a certain way because you have to make EPA happy. So you can't say, well, we're not going to do any water quality monitoring, we're just going to put in systems. You can't do that because EPA wants to see the before and after effects. The county commission has their own perspectives on what they want for their constituents. The community has in their mind who should get systems and who shouldn't. There seems to be a really big push for people who have attended the most meetings to be higher up on the list for getting a system. I find it really fascinating that there's been something like 26 community meetings on this project, because Ric's meeting with them once a month. I have never heard of that level. BC: He said it was unusual as well. TV: What I've seen in the past is that the community gets very frustrated, they feel like they're wasting their time and not getting anything out of it. BC: I see. TV: And so, typically, you want to involve the community, but you don't want to over tax them in terms of their time and so forth. And another interesting thing is, this may sound really odd, I know Ric thinks it sounds really odd when I tell him this, but too much information can be a bad thing. When you get into really nitty-gritty details that they don't understand, it can offer confusion, it's almost like people need to see the big picture.

039 You have all these details that say this sampling point has been sampled ten times, here are the results. Not necessarily a good thing to share with those people. And I know Ric and I have not been on the same page with this, but my reasoning is the nature of the beast. The bacteria counts can have a large variability. I like the way Clement explains it. They are colonies, you're counting colonies. Say you have your glass of iced tea and you throw a spoonful of sugar in. You go in and take an eyedropper full at any point and you would get a different measurement in the bottom, middle, top of the glass just because of the way those grains go. And bacteria is similar. So it's not a big deal if you get a count of 400 here, 300 there, etc. That variation is not significant, what really matter is if you watch these trends. You always see that over time this site is always over. Like 230 being the cutoff for acceptable levels of e. coli in recreational waters, if this site is always over 230 or 8 out of 10 times, then you know you have a situation. But if it's only been high once or twice, that's different. BC: What level of information are

you finding that they want down there that's unrealistic, not helpful? TV: I can't really answer that from the community aspect because I'm dealing directly with Ric, and I understand why Ric wants all the details, he's one of the project members. I would say I don't really know what level of detail the community wants, I've not been able to ascertain that. I know that in my experience—BC: What level does he want? TV: Ric? BC: Yeah. TV: Ric wants every detail. And every detail presented. And I just, I would have to disagree with that. You know, I have my reasons for disagreeing, and I think it's easier if you show things in pictures rather than numbers.

081 What I like to use when I'm managing a project like this is pictorial trends. You know, on this side, maybe a way to do it would be to say here's a graph, let a line across it be the cutoff point, 230, sampling points 1, 2, 3, 4, across the bottom, and what that median trend is, so that you see that sampling point 1, guess what, it's always over or it's always under. And then you see that sampling points 1, 2, and 3, that are always bad, they're up tributary A, these that are always low are up tributary B. And I really think that's all laypeople need. If you throw out a whole slew of numbers—BC: they have no place to put that—TV: Yeah. So it's just, it's a learning curve for everybody. And the county commission is similar to the community in that they're laypeople, and all these details just aren't necessary at this point in time. Now, if somebody asks, ok, it's always high in here, what's the highest number you've seen, you got it, you can tell them. It was 406. But you're not throwing page after page of numbers out. Same thing, you know I can't really speak for Clement, but I know he's expressed similar things in terms of the details of wastewater system design. You can say, media filter handles something a certain way, but you don't necessarily go into how many cubic feet of the media you need.

112 BC: One of the frustrations that both Nic, Nic and Rona, whoops. Got up too early today. One of the frustrations that they both expressed was that at this point in the project they're still not able to tell people, even generally, how many systems there will be and generally how much those systems will cost to maintain. You know, five dollars a month, five hundred dollars a month, who knows? And I guess they don't even feel as though they have that level of information. Is that something that, is that a proper frustration, or do they not, maybe they don't have information about where they are in the process, or are you not there yet? Clem also seems to think that the timeline is longer than the three year grant. TV: Well, I'll tell you. These things take an atrocious amount of time and it's really frightening when you get a grant from EPA that says do these things in three years. And my experience in Preston County, and we didn't have a grant to do it, it's just getting people over this threshold, we're ten years into it. And we went from 10 good systems and 50 bad ones to 50 good systems and 10 bad ones. And that's taken 10 years. And that's having meetings with them twice a year because it's a second home type of communities. And what I'm getting at is that it takes time and it's a process. It takes at least two or three times the amount of time you think. But I don't think we're there yet with the information because until—first of all, we were waiting to find out where, which sites were to be selected in what priority and order to consider and part of that was dependent upon the water quality of the tributaries in the area. So, they set up a nice ranking system that if it's polluted at this level it gets a 20—BC: And if there are this many people in the house, and willingness to pay for upkeep which seems

pretty critical—TV: Right, all of that. So once all of that shook out, that came in this summer. So now there are sites to look at.

146 So the very week they came up with the rankings, Clement wanted to start looking at the top ten. So that week in June we were out looking at those sites, and I have to do more intensive monitoring around where those sites will be, you want to get a little closer to the house, just intensify the study of that site. BC: So there's still a whole lot more information you need before you can even think about what kind of systems will work there. TV: Exactly. So let's say you look at this lot. Then Clement goes out as the wastewater expert, he's been good to get the health department on line, the state department, because it's a specialized type system and the state's going to have to grant a particular kind of permit, so there's a lot of bureaucracy involved. So he'll look at a site, and the first thing he has to do is rule out the basic septic system. Will it work or not. Because you want to start with the simplest thing. We always use the comparison with cars. If you're just trying to get to work, do you really need the Cadillac? So, do we need the Fiat? If we do, okay, if we don't how come? Maybe we need the Toyota Camry. Whatever it is, but what do you really need and why? So once you look at something it may be that you need a specialized drain field. Like a chamber system or something, or maybe you need a secondary system on there, like chlorine, or UV, or some such. So then when you know what the components are, and the health department's saying yes, we agree with that, or no we don't, you've got to have some way to negotiate that. Then when you know what it is you can say what it's going to cost. What the maintenance would be. So the closest we could do is a range at this point. It could go as low as 3500 for a standard septic system, it could go as high as 10,000 if we have to do a really super duper system. There's one place we looked at, for instance, that has three or four homes grouped together in a very small area, it may be that those four get put on a system. Well, then all of a sudden you've got four or five homes on that system, it's 20, 25,000 dollars. Of course, divided by the number of homes it's not so bad. So there's just so many unknowns that anything short of a range at this point we can't do. BC: But you could do a range at this point. TV: And we have done ranges.

183 And also a range for maintenance. BC: What is the range, just for giggles? TV: For the maintenance? BC: No, for the buying. TV: At this point I'd defer to Clement on that because I've been out of that arena just long enough now. And it depends on the area, too. See if you get local area contractors it'll be cheaper. But if you have to get a certain kind of media that has to be shipped in, that adds to the cost. For any type of alternative system it requires Class Two installers that have to be trained. BC: Specialized people. TV: Yep. And there's a list for the state. And the nice thing about Clement is that he knows the good ones and the bad ones. But then Lincoln County has to do a bid process for anything that they spend money on. So when they get the bid process done and they get three bids in, Clem could probably look at the list and say these two have really messed things up in other communities, and I hope they communicate that. BC: And depending how the county is structured, they'd almost have to go with the low bid. TV: And then you'd almost have to have an argument for why you can't because you're spending EPA money and they don't want to have something botched up. Anyway, there's a lot of complexity, which I'm sure you can start to appreciate. Shoot, I was going

to go in a different direction. BC: Sorry. TV: no, no. BC: I derailed you with talk of – TV: (Laughs)—BC: When you were talking about, I asked you how much the range was and prior to that you were talking about the kinds o systems, getting people involved, backing up. TV: Um. BC: Well, let me ask you this. Can I just—TV: yeah, go ahead—BC: I’ll just go down a different road—TV: Sure. BC: In your mind, what is the great strength of working directly with communities generally, as opposed to just going and getting the contract and doing it. What’s the difference? TV: Well, with the communities what I see is that it empowers them in certain ways. Typically, what I see, when you do finally get through the growing pains, which hopefully a good management team, the better they are the more transparent those growing pains are to the community. It’s really a matter of guiding them to an end that you know they can get to. But they need to feel like they have been the ones making the decisions to get to that end.

222 They need to feel proud of what they’ve done, that they have selected it, that it has not been done to them. That is very, it’s an art form in terms of making that happen, finessing that. And you know, because we’re going to leave there. When that project’s done we’re out of there. And we don’t want to leave them with something that doesn’t work. If it’s too complicated, if it’s a system that has to be treated a certain way, people won’t do it. BC: Yeah, Nona made an interesting point about if people don’t feel like they’ve had a hand in this decision then as soon as you leave the pieces will end up at a flea market. TV: And they’ll say it didn’t work, those people didn’t know what they were doing. And it’s because you were supposed to put a tablet in once a month, or whatever they were supposed to do. So the simplest thing that will work is definitely what we want to do. We’ve heard a lot of concern at meetings over what things cost. Like it shouldn’t cost more than 2,000 or, and I find that fascinating, that they’re so worried about the cost. BC: That probably comes in with their worry about making sure everybody gets a system. TV: Perhaps, but then if someone hasn’t come to many meetings they don’t want them to get one. If they look at the people that are actively at those meetings, they’ve got a good chance of getting a system, I don’t know it depends on how all the costs pan out.

245 But when it’s happening in their backyard they have to get involved. They have no choice. It’s not like a demo site at a state university where you have this spot of land and you just go put in what you want. BC: Imagine that it was that way. What is the difference, how is it more complicated about working with community people than if you just had the contract to cover it yourself. TV: Well, it’s just a matter of getting all of those people on the same page. And everyone’s perception is different. I’m convinced that I see this brown wood desk, and you see this brown wood desk, but I guarantee you that the shade of brown that you see is not the shade that I see. And it’s that way with everything. And I have found also that you have to say the same thing, as simple and clear as possible, many, many, many times. People don’t hear it the first, second, or third time. So the more people, the more issues. And that adds to the time factor. But I think that the frustration level on our end is just the lack of trust that we have done this a zillion times, we know what we’re doing, we’re trying to help this community. BC: How does that get manifested? How do you get that message, this lack of trust, because Clem mentioned that as well. TV: It’s strictly with communications with Ric, and his

expression that there's lack of trust in the community that we, frankly, have not experienced. So either they act differently when we're there, or Ric is just seeing a different side of the coin than we are. BC: When you say to trust us that we've done this before and we know what we're doing. Is that something that you get from him as well or does it come from other places as well? TV: Do you mean from other projects?

274 BC: No, I mean this particular project. I'm sure that nobody says to you I don't trust that you've done this before and that you know what you're doing, how do they get that message to you, or how does he get that message to you? TV: Asking why or how I've come up with what I've come up with, and having to dig up references of EPA manuals or something, see, this is why it says Check e. coli, instead of just having me say Check e. coli. You know, it's just a constant having to back everything up. BC: I see. TV: I mean, BC: This goes back to the level of detail that you were talking about earlier. TV: Right. I mean, I'll give you an example. I've managed a number of projects, and I managed one once that had to do with mine pool flooding. The Mon Basin actually has a number of underground mines that have filled up with water over time. Which has become one of the largest aquifers in this region, these underground mine pools. I managed seven different researchers doing different pieces of that work. They were given clearly what their statements of work were, what they were to do. We had quarterly meetings. They had to present to me and to the funding agency, in this case DOE. I told those researchers what they had to do, but I didn't tell them how. I trusted their expertise. So when we had the quarterly meetings they explained what they did, why they did it, people could ask questions. But it was a quarterly barrage, not daily. I wasn't constantly saying, Joe what did you do and why did you do that? I want to see your reference on why you used this particular transducer. Why didn't you use this other brand of transducer? Because I don't know anything about transducers at this point, that's why we have them. So I think that is what is different about this project. And we've been, you know Clement and I have managed different projects and we're on different sides of the fence on different things, sometimes we're a researcher, sometimes we're a co-investigator, sometimes we're the manager. So we wear the different hats and can play from different angles. And we, I try to do an advisory role as much as possible. BC: You seem really good at sussing this stuff out and being level headed and being more or less objective in recognizing all parts in this. TV: I think so, just because I've been on all sides of the fence. And I really have an appreciation for what Ric is trying to accomplish, and I had just kind of come to expect a certain frustration level, it's just that you, there's just a certain. BC: With this project, or just generally doing community work? TV: Mm-hmmn. Well, there's different frustration with communities. But in this project in particular I think that there are some frustrations that should have been ironed out, or at least could have been ironed out among the project team.

313 BC: What do you think those frustrations are, from your end? The level of detail clearly is one of them. And the lack of trust in your training and expertise? TV: Yes, and also I would say just a lack of information in terms of what is going on with the community. You know, what is the, what are they doing? What are they saying at community meetings? We've asked for minutes at community meetings but haven't gotten them, so we don't know what transpires. It's just like the community's over here, and Clement and I are over here, and Ric's somewhere in the middle, and I don't think we're getting

through that gate all the time, back and forth. When we have gone to the community meetings it's been really positive. It's been a really good experience working with them directly, but sometimes you feel like it's three steps forward, two steps back. BC: Clem used that metaphor as well. TV: And I think we'll get there. But I think an awful lot of time and energy's being expended on my part, Clement's part, and Ric's part, that's really not necessary. BC: And how would you do that differently, what would you say needs to be done differently? TV: I'd say, this is my job, this is Ric's job, this is Clement's job. And we should all be adult enough and experienced enough to handle our pieces. And then be able to get together and say this is what I've done and say, this is what I've done, this is what I'm doing, and be able to move forward instead of going back six months and picking apart, why did we do it this way six months ago? Like, haven't we moved beyond that? So that's what I experience.

- 333 BC: It's always so interesting hearing this from so many different perspectives. Ric talks about wanting to carry this information back to the community. How do you see that? TV: I see having community meetings no more frequently than quarterly. The nature of the project and the time it takes to do things, we don't have something every month. There's not anything necessarily new in February that wasn't said in January. But every quarter there is. I think it's a matter of looking at a realistic timeline and then sticking in those strategic meetings and getting information to them based on the progress. Instead it's almost like the monthly meetings are trying to force the progress. I just remembered what I was going to say earlier. There's also EPA required, oh shoot, it's like a categorical exclusion to make sure there's no little endangered salamanders we're going to disturb if we put a system in that site. And it was in Ric's ballpark to get that. As project manager that's what he has to do, and we just got that, I think in June. So we couldn't even go out and take a shovel and dig, I mean so it's like these things take time, back things up. So we couldn't say what system goes in if we haven't been to the site. They're just now digging some test pits to see what the soil characteristics are like for that site. BC: I remember that from archaeology. Ok, so one of the themes that's emerging up here today is that the first problem is the timeline. Everything got compressed. TV: It's gotten compressed, and we're really hoping we get a no-cost extension for a year, that's supposed to be in the works. It's going to be tight enough— BC: just trying to do it in four years. TV: Right, because the first year nothing much happened, so we kind of lost that year. But you have to realize too that we're in a situation where all three of us, I believe, inherited this project. What's normal is people get together, select the people they're going to work with, get all excited, you select this person because you know they're good at this. And so we're all kind of stuck with each other, for better or for worse. And I would love, I mean I really like this community and I would like to see it work out good for them. I mean, I like Ric and Nona, it's not that, it's just that I think, maybe we wouldn't have chosen each other based on what we do and know and interact, I don't know.

- 366 BC: How would you, you're writing a manual for people who are going to be doing this work in the future, what specifically how would you recommend to other researchers in your field, taking this specific experience as an example, what advice would you give for how to proceed in these kinds of situations. What do people need to do? TV: You mean

starting a project, or working on one already started? BC: Let's start there. When working on a project like this, do these things, do not do these things. TV: Then I would say, first of all, you have to make sure you've got the right people. That the people doing the technical work are fully capable of doing the technical work and you can trust them to do it, and not constantly go after the details and all that. And same with project management, the person's experienced with working with the community. And you can actually have someone who's great working with the community, but they don't necessarily know how to balance the three and four tripod bosses and mesh all of that. There could be technical people who are great crunching numbers but you wouldn't want to stick them in front of the community because they would just be condescending or whatever else, so you need to have the right kinds of people. Then, once you have the right people, it needs to be clear what they're supposed to do, it needs to be lined up clearly from the get go, which we thought we had set up clearly in a statement of work what we had to do, and you let them run and do it. You get the results, like, I don't try to tell Ric how to do his job. I don't say Ric, when you go down to the community you need to tell them this. I don't go there, he hasn't asked for my opinion on it, he hasn't pushed. I'm not going to barrel over him and do that. Um, so there needs to be clear lines of division, you know that person's responsible for that. You know if I, doing the water sampling, had botched it up and wasn't doing it, or wasn't showing up, I should be replaced. Same with any other research person. But then, I think getting a realistic timeline in place. We all had many, many, many meetings and discussions over the timeline and we can say, it's pretty easy to put things in quarters.

396 You can say, in the winter we're going to do this, in the spring we're going to do that. You can't say on April 15 we're going to sample. Because you don't know what the weather's going to be. All you can say is in this quarter, give or take a week. Then be able to identify what are the critical components to get things moving. Without that categorical exclusion, no system is going in, period. So that's a critical element. But if you're talking about, on the list of top ten, 7, 8, &9 happen to be together, so it makes sense to put in those systems, they may go in before the person that's second on the list gets a system. There may be reasons for that and you need to be able to explain why. And I think at least monthly meetings, as hard as it might be to get together. BC: Monthly meetings of the investigative team? TV: Of the investigative team. BC: And not necessarily of the community? TV: Not the community at all.

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000 BEGIN SIDE ONE, TAPE TWO

002 And then I think it's important, if there's another university person or two with an interest in this, or a county commissioner or two that has an interest in this, you get your stakeholders together. You need to get your worker bees together monthly, but you need your stakeholders together at least quarterly. And I'm real disappointed that the EPA is as hands off as they are on this project. I wish they were more hands on. I really like the way DOE did the quarterly meetings because then you knew every three months what

they like, what they don't like. It's just a real good check and balance. BC: Instead of just pushing the quarterly report into the wind and that's it. Is that standard EPA style? TV: Yes. BC: Has it always been like that, or is there a change? TV: No, it seems to be like that for some time, you know, and I don't mean to criticize EPA, it's just that's the way they do things. And it's nice to have the checks and balances every quarter. And without them, that's why it would be nice to get the county commissioners in, and a couple university people in that really understand these cooperative agreements and make sure that everything's getting done. Even as a project manager it's nice to have someone breathing down your neck, making sure you dot your Is and cross your Ts. And it helps me sleep at night knowing that somebody's looked at it and it's not just me thinking it's ok. BC: So far then, you would recommend make sure you get the right people, make sure you assign your duties, and trust people to carry them out. Construct realistic timelines, have regular meetings of main constituents, community people no more than quarterly. BC: Otherwise you build expectations and burn people out. TV: Right, exactly.

- 042 BC: What else, what else do you need to do to do a project like this successfully? TV: I think that they really need to have a realistic objective in terms of, we don't want to see promises made like community people feel if they've come to the meeting, they do all this, they're going to get a system. When I did meet with them I tried to tell them that even if they didn't get a system and their neighbor did, there's that much less going on that could affect their well. But just really trying to not make promises at all. And to try to, maybe almost be more conservative, well, there will be some systems but not for all, you know work it almost opposite. I don't know. BC: What has been, when you went into this project, I'm sure you expected challenges. But are there challenges that have come up that you did not anticipate? TV: You know, I wouldn't really say there have been. There's a unique set of situations with every project. And once you realize who your players are and what they're like, you just kind of know what the flow's going to be.
- 069 BC: What's the reward of doing this kind of work for you? TV: I just love to see people get some help and have some of the basic services. And water, and wastewater treatment, are basic, basic services. And I think everybody in this country better have it. It just bugs me to think, This is America? We still have this going on? This is not some third world country. And I love to see government money going for this stuff. I just love to see EPA money going for this stuff. I would like to try to model this, in terms of dealing with this community, go get more funding and branch out a little more in Lincoln County, or branch out in another part of the state. BC: Use it as a springboard—*interruption, BC phone rings (sorry, very bad form), small talk about wrapping up*—BC: so you were saying that the great reward is for you to see communities have this done and that you think we should have this everywhere. TV: Oh, yeah, and you know I have had jobs where I felt like what difference does it make whether I go to work or not? But these kinds of projects do make a difference, it does make a difference that I get up and go to work because somebody's going to benefit from that.
- 099 So it drives me to do it, and I would love to do more and more of these. But I know there are different levels of frustration with any of these projects. BC: Well, and that's

necessarily, if you went off to do this by yourself there would probably not be a whole lot of frustration at all, except for your own internal dialogues, but anytime, in my experience as well, anytime—TV: you get three or more people together—BC: Yeah, exactly. And these community projects for me, they're a great challenge and great reward, it's like that Chinese character for danger and opportunity. And the trick for me is not necessarily to find a way to eliminate conflict, but to offer people ways to work through projects so that conflict doesn't come up as often, or to work through conflict when it arises. And the suggestions that you've given here, the right people, the right duties, realistic timelines, regular meetings, those seem like realistic ways to construct projects to eliminate...it does seem as though Ric and Nona might have special challenges, running into people in the grocery store and all, especially the way rumor functions in small communities. TV: Well, I understand, especially with this volunteer work that I do, I would have contractors show up at 10:00 at night, they know where I live. Or I'd have a homeowner come with a plan, this is my home, couldn't you call? So I know that. But it's that finessing, that defusing all of that, being able to say, this is a three-month process, we'll know in two months. And not expect them to be coming to meetings.

131 TV: I think just chill a little bit, that's a way to say it. Oh, I used to be a type A, I consider myself to be a recovering type A. And I know how, I appreciate Ric's level of enthusiasm, you know wanting to get this stuff done, but I had to tell myself, I had to train myself, if I think it's going to take a week I've got to multiply it by 2.5. That's my realistic timeline, to overcome my optimism. And years ago I might have been all wound up about all this. BC: Is there anything that you would like to add that we haven't talked about? TV: The only thing I would like to say is I would really like to get a grip on this project team. I think it's a good project team, as irritated as we might get with each other from time to time, I think that is actually healthy. Because we're learning each other and we're figuring out where those difficulties are. And if we succeed, in putting ourselves in our respective boxes to where we can still interact, I don't see why we can expand this on to additional work. You know Ric knows these people, there's lots more areas that need work. You know, I've talked to him about as soon as we get a little more data and a couple of systems in, see if we can get another proposal going. BC: And how do we get this project under control, this management team going? TV: I almost think that we're going to have to ride this thing out. Let's just ride this project out and maybe when all is said and done that level of trust will be there. Or it won't. If it is, we can move forward. But if it's not there by the time we get this thing done...I think this is the make or break project for us as a team. This team. BC: Well, I really hope it works out for you. It's important work. TV: Yeah. Well—

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END OF INTERVIEW

Quarterly Progress Report

Lincoln County Commission, West Virginia
Left Fork of the Mud River
Decentralized Wastewater Demonstration Project
Assistance ID # X-83212101-0

Submitted by Ric MacDowell (304-824-7911)
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Dates Covered: January 2006 through March 2006

Work Status and Progress:

Objective 1. Support leadership development, critical thinking, and project sustainability in the Left Fork community

Congressman Nick Rahall has been supportive of this project from the beginning. On February 24, 2006, the Congressman came to the county, helped take water samples in the watershed, and met with community members to discuss this project and its implications. His actions added to the continually growing support to this community and the project. A variety of area newspapers covered his water sampling.

Action 1.1. Establish calendar and educational programs for ongoing community meetings.

The Lincoln County Team and the Morgantown Team met in January 2006 in Morgantown to discuss questions and timelines. In February, Clement Solomon and Tamara Vandivort from NRCCE came to Lincoln County. They presented a power point to the County Commission of the project's progress and met with the local community to discuss various types of alternative systems and water quality analysis. In addition, they met for a luncheon discussion with the Lincoln County team, a representative from the local public service district, the President of the County Commission, and the County Sanitarian.

At regular community meetings at the local volunteer fire department, members of the Left Fork Community continue to come together to discuss various aspects of the grant. At the Lincoln County level we believe that these citizens are equal decision makers, equal players in this process of deciding where systems are installed and why. Though involving so many people makes the decision making process more cumbersome, the long term success of this project depends on the development of leadership and decision making skills which this involvement will promote. For these reasons all information is shared with the community. They discuss issues which arise as we look at data, concerns they have, and raise questions which help us define key issues which could become obstacles unless they are answered satisfactorily.

Through the end of March 2006, there have been 23 different community meetings since the project began. 90 different people have attended these. A core group of 15 to 20 people have attended most meetings. Prior to each meeting, the Commission sends out a mailing to some 85 people, announcing the meeting and the key topics which will be discussed. Meetings rotate among different days of the week to allow people with scheduling conflicts to attend..

Action 1.2. Develop criteria for installation.

The community has worked for more than a year, brainstorming, discussing, and prioritizing the criteria which the community will use for ranking who gets systems. A matrix for doing this was approved unanimously at a Community meeting at the end of March and then approved by the Lincoln County Commission. This criteria will then be dovetailed with criteria from our collaborators in Morgantown and any concerns from federal or state agencies. (See Attachment A for copy of Community Criteria)

Action 1.3. Develop local leadership to sustain the project.

The ongoing community and leadership group meetings have helped bring community people together to discuss issues related with the project. Those people who regularly attend these meetings have grown more confident as they have learned more about the project. We have tried to model participatory decision making and good leadership skills with them. We anticipate local people assuming greater leadership roles as the project moves forward. Two members from the community attended the state WV Watershed Network meeting in March 2006.

Action 1.4. Evaluate community attitudes.

At the end of the project, WVU Extension will re-survey community members and compare attitudes at that point with attitudes from the beginning of the project. In addition we are exploring opportunities with Marshall University to pursue additional community based research.

Objective 2. Sample and analyze streams and tributaries in the Left Fork Watershed

In order to better understand parts of the science involved in the project, Ric MacDowell went to Morgantown in January 2006, to work with Annie Morris at NRCCE and learn how better to use GPS units and access web based satellite photos and materials.

Action 2.1. Collect existing data, develop baseline.

Currently there are 24 baseline sampling points identified in the watershed. All of these have been assigned an identification number and have been mapped by GPS.

Action 2.2. Design sampling regimen, follow through with sampling and analysis. and

Action 2.3. Sample potential locations and analyze data.

Quarterly tributary samplings started in November 2005. A second quarterly sampling was performed on February 28th. Quarterly samplings are being conducted by Tammy Vandivort and Annie Morris of West Virginia University's West Virginia Water Research Institute. There are 24 different sampling sites. Quarterly sampling analyze:

1. Total Coliforms
2. E. Coli
3. Total dissolved solids
4. pH
5. Dissolved oxygen
6. Specific conductivity
7. Temperature
8. Stream flow
9. Nitrates

Items 1-3 are analyzed by Bio-Chem Lab in Teays Valley (the certified laboratory which was awarded the analysis bid by the Lincoln County Commission). For both e. coli and total coliforms, Bio-Chem uses the HACH 10029 method. Nitrates are initially measured in the field using test strips. If readings are high, samples are taken and analyzed by Bio-Chem. Other items are measured in the field.

In addition to quarterly sampling, other sampling is done by Ric MacDowell, Project PI, and either Nona Conley or Kathy Basham. All three have been trained by West Virginia Water Research Institute. These samplings focus on e. coli, temperature, pH, and turbidity.

Five different samplings have been taken to date (November 2005 through February 2006). Consistently, total coliforms have been high throughout the watershed. Readings for pH have been within the acceptable range.

Of the 110 e. coli samples taken, 52 or 47%, had readings over the 200 parts per 100 mL acceptable limit. One site had 5 out of 5 samples over the acceptable limit. 4 other sites had 4 out 5 samples over the acceptable limit. 5 sites had 3 out 5 samples over the acceptable limit. It needs to be noted that the sampling of December 2005 was taken after a day of hard rain and taken during intermittent rain when there was high run off from soils. Of the 20 samplings taken in December, 18 or 90% had readings over the acceptable limits.

As the sampling regime has progressed, additional sites have been added at the suggestion of the local community in hope of isolating better areas of contamination.

See Attachment B for Table of Historic E. Coli Sampling

Action 2.4. Sample hot spots more intensively and analyze data.
Hot spots will be determined from total data collected.

Objective 3. Install appropriate wastewater systems and monitor their effectiveness

Work on this objective will progress as data is gathered from work in Objective 2.

Action 3.1. Complete NEPA / FONSI.

In July, we learned from Charles Vanderlyn that the project falls under the Categorical Exclusion provisions of NEPA. Matthew Harrington, NEPA Coordinator, issued a preliminary determination that we may be eligible for a categorical exclusion. Since then we have contacted a variety of state and federal agencies asking for their responses to specific questions that are part of the exclusion application. These include: US Fish & Wildlife Service, US Army Corps of Engineers ~ Wetlands, US Army Corps of Engineers ~ Flood Plain Management, WV Division of Natural Resources, USDA NRCS, WV Historic Preservation. We continue to collect comments from these agencies in preparation of submitting the Categorical Exclusion request. It is anticipated that this will be submitted by the end of April 2006.

Action 3.2. Develop criteria for installation (See Action 1.2).

Action 3.3. Identify potential site locations.

The Community Criteria (Attachment A) has been developed and approved by the Left Fork Community as their criteria for identifying potential site locations. Starting in May 2006, community members will be asked to work by project staff to complete a preliminary homeowner information questionnaire (see Attachment C). Information from this questionnaire will help in developing a ranking of potential sites. These will then be matched against county land / property records and other criteria from our collaborators in Morgantown and any concerns from federal or state agencies.

Action 3.4. Install systems. Monitor system installation.

After discussions with the WV Public Service Commission Utility Inspector who serves Lincoln County, it has become even clearer that we'll need to spend significant time figuring out a mechanism to insure that systems we install, especially cluster systems, receive proper maintenance after the formal project finishes. WV at this point does not have any working models for how revenue can be collected through public service districts to maintain sewage systems in areas without public water.

Action 3.5. Sample wastewater and analyze systems.

Objective 4. Incorporating the project into Lincoln County schools

Action 4.1 Design and present programs at Duval and Hamlin High School

Environmental Science Classes.

Again this year we are working with local environmental science teachers bringing information about the project into their classrooms and increasing understanding among their students about the importance of protecting watersheds and developing safe waste water systems. The County Commission would like us to reach out to all 4 high schools in the county with this project. To date this has not been practical.

The focus has been on Duval High School both because most of the teens who live in the watershed go here and because the Environmental Science teacher at Duval has been very supportive of the project. During this quarter Ric MacDowell worked with Duval's two Environmental Science Classes and one Chemistry Class. Most of the Chemistry students were in last year's Environmental Science Class which Ric worked with, so they continue to be interested in the project. During this quarter we focused on Left Fork tributary sampling results and potential factors relating to these, and protocols

for correct sampling. After students learned proper water sampling techniques, they actually sampled creeks around their school. Results from these samplings raised issues for them about their own school's wastewater system and potential problems it might be causing. In April, 2006, we have planned a field trip into the Left Fork watershed to do water and macro invertebrate sampling.

Action 4.2 Facilitate and advise annual HSTA project with Hamlin High School Club
For 2005-2006, the local HSTA chapter is focusing on dietary habits at Hamlin High School. However, they are interested in helping with sampling and have welcomed updates of the project at their meetings.

Objective 5. Create reports based on project research

Work on these is ongoing.

Action 5.1. Community Case Study

Action 5.2. Community Attitude Evaluation

Action 5.3. Water Sampling Findings

Findings from the tributary sampling analysis done by Bio-Chem Testing have been distributed to the County Commission, County Sanitarian, and local Left Fork community members.

Action 5.4. Systems Monitoring, Wastewater Sampling and Analysis

Action 5.5. HSTA Project

Objective 6. Disseminate project findings

Work on this objective is ongoing.

Action 6.1. Various websites, electronic journals, print journals.

The local county newspaper, the Lincoln Journal, has done a number of feature stories on the project. They carried a two page article as part of the March 2006, *Pride and Progress* issue.

Action 6.2. Conferences

A proposal by Ric MacDowell has been accepted for presentation at the October 2006 Outreach Scholarship Conference in Columbus, Ohio. The presentation will focus on this project and successful engagement strategies needed to involve the local people in decision making, and ways to bridge the gap between the university and the local community.

Objective 7. Comply with various project reporting requirements

This work is ongoing and continuous.

Action 7.1. Report and meet with Lincoln County Commission (monthly), other stakeholders and collaborators

Ric MacDowell meets at least monthly with the Lincoln County Commission and provides them with written up dates and findings from the project.

Action 7.2. File quarterly and other specified reports to EPA

Quarterly reports are being filed as required to EPA.

New Action. Limited scope review audit.

During January 2006, Richard Dix of Leon Snead & Company, performed a limited scope review of the Lincoln County Commission's financial management system for the grant. The review disclosed three system weaknesses in need of improvement. These were pointed out in a February 17, 2006, letter to the Commission. We worked with the Commission which took corrective actions on all of these items during March. These included:

- New Policy and Procedure for Invoice Payments
- New Policy and Procedure for Requesting Funds
- New Policy and Procedure for Reporting Requirements
- Adoption of Federal 40 CFR 31.42 as the written record retention policy for the grant.

Responses to all suggested corrective actions were sent both to Leon Snead & Company and to Glen Langois, EPA Compliance Officer.

Difficulties Encountered:

There are a number of different paradigms in the various groups and agencies involved in this project for how best to move it forward and make it a success. These do not always mesh together. One of our challenges is to work through conflicting ideas of how projects like this deal with communities. We are not all in agreement on where to give information to communities and where to withhold it for fear it may cause false expectations and confusion. Keeping lines of communication open has not always been easy, though it is critical to the project's success. Though other agencies are supportive, this project is often just a small piece of what they are doing.

Preliminary Data Results:

See [Attachment B](#)

Statement of Activity Anticipated During Subsequent Reporting Period:

During April, we anticipate meeting with key Morgantown players to flesh out other criteria besides the Community Criteria for prioritizing system installations.

In April, we hope to have a field trip into the watershed for local high school students to sample for macro invertebrates and water quality. We will continue to work with Duval High School students exploring their school tributaries and effects of their school wastewater treatment plant on these.

During the quarter our collaborators from WVU's NRCCE will do another full blown quarterly sampling. The Lincoln County team will do less intensive sampling.

Lincoln County team members will work with local community families helping them fill out the homeowners survey (Attachment C) which will help in the process of prioritizing sites for system installation.

We have set a goal of installing at least one system by July 2006. In order to do this we will continue to address the following points first set down in the previous Quarterly Report:

1. Need to decide what and how much formal, measurable, "scientific" data needs to be gathered prior to the decision of where to put in a system.
2. Need to have a post installation maintenance plan in place. Prior to this the Lincoln PSD needs more information before they will buy-in.
3. Need an assessment of which systems would work best in the 5 potential sites we are identifying and a criteria for picking the final system.
4. Need to expand the Community Criteria for choosing sites. This needs to be clearly understood with clear buy-in from the community, the commission, and the 6 of us.
5. Need to decide the criteria for selecting the system installer, and if local people need credentialing to do this, make sure they get trained.
6. Need to have a clear understanding of what the post installation responsibilities are for both individuals who get a system and people in a cluster. We need to be able to explain these to people.

We will continue discussions with the local Pubic Service District about potential ways to work together on this project, especially maintenance and sustainability after the project funding ends.

Financial Report

Project Category Item	Total Project Budget	Paid-to-Date March 31, 2006
Salaries	\$ 287,802.64	\$ 53,506.80
Benefits	\$ 67,992.08	\$ 12,477.00
Supplies (General Expenses)	\$ 9,000.00	\$ 905.11
Equipment	\$ 5,000.00	\$ 1,616.58
Sub Contractors (Systems, sampling, etc.)	\$ 453,892.00	
Travel	\$ 21,000.00	\$ 3,275.53
Other Direct Costs (Sample Analysis)	\$ 50,000.00	\$ 4,587.00
WVU Indirect Costs (F&A)	\$ 69,014.52	\$ 12,952.20
Total	\$ 963,700.00	\$ 89,320.22
Matching Contributions through March 31, 2006		
In-Kind Matching Contributions		\$ 42,581.05
WVU Cash Cost Share		\$ 25,300.24
TOTAL		\$ 67,881.29

Expenditures seem to be in line with expectations and needs at this point in the project. As we find that items are over budgeted, we will request that funds be transferred into Sub Contracts in order to install more systems in the watershed.

Attachment A

**Left Fork Community Criteria for
Getting Alternative Sewage Treatment Unit**

<i>Item</i>	<i>Possible Points</i>	<i>Homeowner Points</i>
low income status	25	
high e. coli level in creek over acceptable limits some of the time 10 points over acceptable limits at least 30% of time 15 points over acceptable limits at least 50% of time 20 points over acceptable limits at least 70% of time 25 points	25	
number of people the new system would serve 3 points for every person living in the house up to 21 points	21	
participation in community meetings attended at least 10% of meetings 5 points attended at least 30% of meetings 10 points attended at least 50% of meetings 12 points attended at least 60% of meetings 15 points	15	
early sign up to agree to put in a system	9	
willing to contribute financially to installation costs contribute at least \$50 1 point contribute at least \$100 2 points contribute at least \$250 3 points contribute at least \$500 5 points	5	
<i>Total Points</i>	100	

Other things would also play into deciding who gets a system including recommendations from our engineering and sewage partners, additional water quality information, government agency rules (historic preservation, archeological sites, clean water act).

Attachment B

Historic E. Coli Sampling Results

ID No.	E. Coli (per 100 mL)				
	Acceptable Limit 200 11-15-05 Vandivort (Bio-Chem Lab)	E. Coli * 12-15-05 MacDowell (Bio-Chem Lab)	E. Coli 1-12-06 MacDowell (Bio-Chem Lab)	E. Coli 2-09-06 MacDowell (Bio-Chem Lab)	E. Coli 2-28-06 Morris (Bio-Chem Lab)
1	454	8200	500	96	19
2	96	5400	78000	1364	150
3	25	5200	450	700	430
4	88	1000	1000	17	92
5	112	15200	108	3	3
6	1000	4200	420	8	14
7	420	6400	370	80	41
8	2900	8800	420	100	580
9	10000	9400	236	850	300
9A		8600	160	440	1000
10	400	2500	108	11	52
11	545	1900	610	8	398
12	190	1650	120	<4	<4
13	202	5600	88	<4	750
14	190	27	120	<4	80
15	104	1650	220	5	92
16	140	205	390	28	22
17	363	2050	162	28	<4
18	25	160	360	17	200
19A	69	1000	116	44	<4
19B	410	6600	480	<4	200
21	6	not taken	not taken	not taken	not sampled
23		9400	590	120	not sampled
24			960	17	104
25			233	5	156
26				5	16
27				<4	<4

Data Notes:

Shaded result for 11-15-05 for site 9 is a lab estimate.
 12-15-05 sampling was taken during heavy runoff from rain.
 Site #23 and #1 are the same location

Site # 9 and 9A are the same location.
Sites 24, 25, 26, 27 were added at suggestion of the community.

Attachment C

Homeowner Information

Homeowner ID _____ (← Don't fill out this. We'll give people one and then black out the name, address, and phone)

Name _____

Address _____

Phone _____

Home Information

people living in house _____

of bedrooms in house _____

How old is the house _____

Are you the owner _____

How long have you lived there _____

Well Information

Drilled well: yes _____ , no _____

Well has a casing **above** ground with a cap on top: yes _____ , no _____

How many feet deep is the well _____

Septic System Information

What kind of system do you have now:

Where is it located:

How old is it _____

How far from your well _____

Income Information

Check any of these you now qualify for:

- a. Our children get free or reduced school meals _____
- b. We get food stamps _____
- c. We get help getting paying electric or gas bills _____
- d. Someone in the home gets an SSI check _____

If you **did not** check a.,b.,c., or d., look at this table and see if your household income for the number in your home is less than the amount across from it:

Household Size	Yearly Income	Monthly Income	Weekly Income
1	\$ 17,705	\$ 1,476	\$ 341
2	23,736	1,978	457
3	29,767	2,481	573
4	35,798	2,984	689
5	41,829	3,486	805
6	47,860	3,989	921
7	53,891	4,491	1,037
8	59,922	4,994	1,153
Each additional person add	6,031	503	116

Check here if your income is less than amount for your household size: _____

Willingness to Contribute Financially toward New System

Check what applies:

- Can't contribute any _____
- Will contribute \$50 _____
- Will contribute \$100 _____
- Will contribute \$200 _____
- Will contribute \$500 _____

Agree to Maintain System after Project is Done

Check what applies:

- At least \$10 per month _____
- At least \$20 per month _____

At least \$30 per month _____

At least \$40 per month _____

Quarterly Progress Report

Lincoln County Commission, West Virginia
Left Fork of the Mud River
Decentralized Wastewater Demonstration Project
Assistance ID # X-83212101-0

Submitted by Ric MacDowell (304-824-7911) ric.macdowell@mail.wvu.edu

Dates Covered: April 2006 through June 2006

Work Status and Progress:

Objective 1. Support leadership development, critical thinking, and project sustainability in the Left Fork community

Action 1.1. Establish calendar and educational programs for ongoing community meetings.

The Lincoln County Team and the Morgantown Team met in April 2006 in Morgantown with administrators from both Extension and WV Water Research Institute to discuss timelines, communications, and goals. These discussions, in turn, have helped increase the information which the local community receives. The local community continues to grow in the understanding of issues dealing with the project, and their ability to suggest appropriate, well thought out solutions and ideas.

Co-PI's and their assistants from Morgantown met with the community in June to discuss tributary sample data and plans for moving toward system installation. As more information is shared with the local community, their understanding of the scope of the project will continue to increase as will their ability to make appropriate critical decisions about how we proceed. Although there have been some questions about the appropriateness of sharing preliminary ideas about systems with the community, both the Commission and the Lincoln County Team feel more information is better than less, especially when it is couched by explaining that the information is part of developing understanding, not set in stone.

At the end of June the local community set up a 9 person Installation Committee which would be responsible for prioritize recommendations from Clement Solomon about different types of systems and their possible placement. The recommendations of this committee will then go to the County Commission for final approval. This committee will also be represented on the bid committee set up by the Commission to make system installation awards.

Two community members from the watershed and another two people from the county attended the Class II Wastewater Treatment System Installer Training course in Morgantown and were certified.

Action 1.2. Develop criteria for installation.

The local community's criteria (See Attachment A) was approved both by the community and the Commission last quarter. It was used this quarter to create a ranking of the 36 homes which to date have completed the questionnaire which gives us information for the ranking. (See Attachment C) This ranking now forms the basis for Clement Solomon's work to look various site feasibility, and his presentation of possible installation ideas to community Installation Committee.

Action 1.3. Develop local leadership to sustain the project.

The ongoing community and leadership group meetings have helped bring community people together to discuss issues related with the project. Those people who regularly attend these meetings have grown more confident as they have learned more about the project. We have tried to model participatory decision making and good leadership skills with them. Local people continue to assume greater leadership roles as the project moves forward.

Action 1.4. Evaluate community attitudes.

At the end of the project, WVU Extension will re-survey community members and compare attitudes at that point with attitudes from the beginning of the project. In addition we are exploring opportunities with Marshall University and Virginia Tech to pursue additional community based research.

Objective 2. Sample and analyze streams and tributaries in the Left Fork Watershed

Action 2.1. Collect existing data, develop baseline.

Currently there are 24 baseline sampling points identified in the watershed. All of these have been assigned an identification number and have been mapped by GPS.

Action 2.2. Design sampling regimen, follow through with sampling and analysis. and

Action 2.3. Sample potential locations and analyze data.

Quarterly tributary samplings started in November 2005. A second quarterly sampling was performed on February 28th, and a third on May 31, 2006. Quarterly samplings are being conducted by West Virginia University's West Virginia Water Research Institute.

Quarterly sampling analyze:

10. Total Coliforms
11. E. Coli
12. Total dissolved solids
13. pH
14. Dissolved oxygen
15. Specific conductivity
16. Temperature
17. Stream flow
18. Nitrates

Items 1-3 are analyzed by Bio-Chem Lab in Teays Valley (the certified laboratory which was awarded the analysis bid by the Lincoln County Commission). For both e. coli and

total coliforms, Bio-Chem uses the HACH 10029 method. Nitrates are initially measured in the field using test strips. If readings are high, samples are taken and analyzed by Bio-Chem. Other items are measured in the field.

In addition to quarterly sampling, other sampling is done by Ric MacDowell, Project PI, and either Nona Conley or Kathy Basham. All three have been trained by West Virginia Water Research Institute. These samplings focus on e. coli, temperature, pH, and turbidity.

Seven different samplings have been taken to date (November 2005 through May 2006). Consistently, total coliforms have been high throughout the watershed. Readings for pH have been within the acceptable range.

As part of the criteria the community developed, we determined the percentage of times each of the 24 sites had readings which exceeded the 200 e. coli count per 100 mL sample. 12 of the sites exceeded the acceptable limit at least 50% of the times they were sampled. From a different viewpoint, of the 156 individual samples we have taken to date, 79 samples or 50.6% were over the acceptable limit.

See Attachment B for Table of Historic E. Coli Sampling

Action 2.4. Sample hot spots more intensively and analyze data.

We are moving toward identifying zones in the watershed which appear to be more contaminated. These zones will probably be the focus of initial installations. Based on our data to date, results from the community criteria rankings, and field work, it looks as if the Flat Creek tributary may be the major zone in the watershed which we focus on. However, this is still a preliminary judgment. Work during the next quarter will help us hone in better on this.

Objective 3. Install appropriate wastewater systems and monitor their effectiveness

Action 3.1. Complete NEPA / FONSI.

Our Categorical Exclusion application was submitted to EPA on May 17, 2006. In June it was sent from the NEPA office to the Water Office for final approval. We have received unofficial word that exclusion has been granted, though the Lincoln County Commission has yet to receive an official notification.

Action 3.2. Develop criteria for installation (See Action 1.2).

Action 3.3. Identify potential site locations.

The Community Criteria (Attachment A) was developed and approved by the Left Fork Community at the end of March 2006. The Lincoln County Commission approved the criteria at their April 5th meeting. Starting in May 2006, community members were asked to complete a preliminary homeowner information questionnaire. Local project staff assisted those homeowners whose reading levels made completion difficult. Information from this questionnaire was used to develop the first ranking of potential sites (see results in Attachment C). These sites were visited in June by project staff (including Morgantown co-PI's), the county sanitarian, and state DHHR onsite sewage program

coordinator. Preliminary discussions have begun on potential system types, placements, and zones for more intensive work.

Action 3.4. Install systems. Monitor system installation.

The project staff and the County Commission have set a goal of installing a system before the end of this fall, realizing that a number of factors could effect this time line. In a best case scenario, more than one system would be installed before the end of 2006.

Action 3.5. Sample wastewater and analyze systems.

Objective 4. Incorporating the project into Lincoln County schools

Action 4.1 Design and present programs at Duval and Hamlin High School Environmental Science Classes.

During this quarter, we spent a significant amount of time at Duval High School. Most of the teens who live in the watershed go to Duval and the Environmental Science teacher at Duval continues to be very supportive of the project. Ric MacDowell worked with Duval's two Environmental Science Classes and one Chemistry Class. The previous quarter students had learned proper water sampling protocol and had sampled creeks around their school. Results from these samplings raised issues for them about their own school's wastewater system and potential problems it might be causing. In April, we had a field trip into the watershed and did water and macro invertebrate sampling at two different locations. One site consistently has had higher than acceptable e. coli readings; the other has had more acceptable readings. Students and a professor from Marshall University's Integrated Science and Technology Program joined us for the day. We hope this partnership with Marshall will continue throughout the project.

Action 4.2 Facilitate and advise annual HSTA project with Hamlin High School Club
For 2005-2006, the local HSTA chapter focused their research on dietary habits at Hamlin High School. While they are interested in the EPA project, there will probably no longer be the direct relationship we had during the first year.

Objective 5. Create reports based on project research

Work on these is ongoing.

Action 5.1. Community Case Study and Action 5.2. Community Attitude Evaluation

With funding ***not*** connected to this grant, we will do a qualitative evaluation of challenges and successes that project staff identify in work between the community and the university. We are also looking at the possibility of further study to see how the local community feels their skills have improved, and how they view university-community collaboration issues.

Action 5.3. Water Sampling Findings

Findings from the tributary sampling analysis done by Bio-Chem Testing have been distributed to the County Commission, County Sanitarian, and local Left Fork community members.

Action 5.4. Systems Monitoring, Wastewater Sampling and Analysis

Action 5.5. HSTA Project

Objective 6. Disseminate project findings

Work on this objective is ongoing.

Action 6.1. Various websites, electronic journals, print journals.

Action 6.2. Conferences

A proposal by Ric MacDowell has been accepted for presentation at the October 2006 Outreach Scholarship Conference in Columbus, Ohio. The presentation will focus on this project and successful engagement strategies needed to involve the local people in decision making, and ways to bridge the gap between the university and the local community.

Ric and another WVU faculty member are discussing the possibility of submitting a proposal to the USDA-CSREES National Water Conference which will be held in January 2007.

Objective 7. Comply with various project reporting requirements

This work is ongoing and continuous.

Action 7.1. Report and meet with Lincoln County Commission (monthly), other stakeholders and collaborators

Ric MacDowell meets at least monthly with the Lincoln County Commission and provides them with written up dates and findings from the project.

Action 7.2. File quarterly and other specified reports to EPA

Quarterly reports are filed as required to EPA.

Difficulties Encountered:

We still need to find ways to improve communications among the major players in this project. Because members of the Morgantown and Lincoln County teams all have only part time responsibilities on the project, we do not always respond as quickly as would be good to the concerns and needs of others. There are a number of different paradigms in the various groups and agencies involved in this project for how best to move it forward and make it a success. We do not always find ways to mesh these together successfully.

Preliminary Data Results:

See Attachments B and C

Statement of Activity Anticipated During Subsequent Reporting Period:

Continue tributary sampling including sampling in July and September by local team, and fourth quarter sampling in last week of August, 2006 by Morgantown team.

Review year long sampling data and develop spatial and statistical trends. Eliminate sampling points that are redundant, add no further value or do not fit the current scope of activities.

Conduct dye tests to identify appropriate locations that are in close proximity to the homes where water quality samples can be taken. The Lincoln Health Department has

agreed to conduct the dye tests prior or in conjunction with the next round of water quality sampling.

Conduct inspection of systems in homes for potential installations and site/soil investigation based on different factors especially the water quality data.

Identify appropriate system options for at least one site. Community Installation Team will prioritize recommendations and submit to the County Commission for final approval. Develop and post bid specs for system(s). Award the contract and begin construction.

Decide what and how much formal, measurable, "scientific" data needs to be gathered prior to the decision of where to put in a system.

Finalize post installation maintenance plan and insure community members have clear understanding of their responsibilities in this.

Develop easily understood and easily read update on the project for local community members.

Begin discussions with teachers at the new, consolidated high school about linking students with the project and developing classroom programs about the project and environmental concerns.

Financial Report

Expenditures seem to be in line with expectations and needs at this point in the project. As we find that categories have excess funds, we will request that funds be transferred into Sub Contracts in order to install more systems in the watershed.

	Total Project Budget	Paid-to-Date June 30, 2006
Salaries	\$ 287,802.64	\$ 69,158.03
Benefits	\$ 67,992.08	\$ 15,690.96
Supplies (General Expenses)	\$ 9,000.00	\$ 1,346.93
Equipment	\$ 5,000.00	\$ 1,616.58
Sub Contractors (Systems, sampling, etc.)	\$ 453,892.00	
Travel	\$ 21,000.00	\$ 5,128.56
Other Direct Costs (Sample Analysis)	\$ 50,000.00	\$ 6,335.00
WVU Indirect Costs (F&A)	\$ 69,014.52	\$ 17,119.46
Total	\$ 963,700.00	\$ 116,395.52

Watershed Community Volunteer Hours	\$ 10,050.00
Additional In-Kind Matching Contributions	\$ 47,134.97
WVU Cost Share (thru 5-31-06)	\$ 32,994.85
Total Match	\$ 90,179.82

June 30, 2006

Attachment A

**Left Fork Community Criteria for
Getting Alternative Sewage Treatment Unit**

<i>Item</i>	<i>Possible Points</i>	<i>Homeowner Points</i>
low income status	25	
high e. coli level in creek over acceptable limits some of the time 10 points over acceptable limits at least 30% of time 15 points over acceptable limits at least 50% of time 20 points over acceptable limits at least 70% of time 25 points	25	
number of people the new system would serve 3 points for every person living in the house up to 21 points	21	
participation in community meetings attended at least 10% of meetings 5 points attended at least 30% of meetings 10 points attended at least 50% of meetings 12 points attended at least 60% of meetings 15 points	15	
early sign up to agree to put in a system	9	
willing to contribute financially to installation costs contribute at least \$50 1 point contribute at least \$100 2 points contribute at least \$250 3 points contribute at least \$500 5 points	5	
<i>Total Points</i>	100	

Other things would also play into deciding who gets a system including recommendations from our engineering and sewage partners, additional water quality information, government agency rules (historic preservation, archeological sites, clean water act).

Attachment B

E. Coli Sampling Results

by Percentage of Times Sample Was Over Acceptable Limit of 200

ID	E. Coli 11-15-05	E. Coli * 12-15-05	E. Coli 1-12-06	E. Coli 2-09-06	E. Coli 2-28- 06	E. Coli 5-10-06	E. Coli 5-31-06	# over Limit	%
9	10000	9400	236	850	300	1340	760	7 of 7	100%
8	2900	8800	420	100	580	470	15000	6 of 7	86%
6	1000	4200	420	8	14	510	410	5 of 7	71%
3	25	5200	450	700	430	244	197	5 of 7	71%
7	420	6400	370	80	41	950	3400	5 of 7	71%
11	545	1900	610	8	398	236	120	5 of 7	71%
13	202	5600	88	<4	750	652	940	5 of 7	71%
25			233	5	156	540	330	3 of 5	60%
1	454	8200	500	96	19	136	3000	4 of 7	57%
2	96	5400	78000	1364	150	188	290	4 of 7	57%
17	363	2050	162	28	<4	212	590	4 of 7	57%
19B	410	6600	480	<4	200	180	310	4 of 7	57%
4	88	1000	1000	17	92	220	132	3 of 7	43%
10	400	2500	108	11	52	144	2000	3 of 7	43%
12	190	1650	120	<4	<4	248	740	3 of 7	43%
15	104	1650	220	5	92	144	460	3 of 7	43%
5	112	15200	108	3	3	53	380	2 of 7	29%
16	140	205	390	28	22	196	116	2 of 7	29%
26				5	16	190	850	1 of 4	25%
27				<4	<4	8	368	1 of 4	25%
18	25	160	360	17	200			1 of 5	20%
24			960	17	104	188	152	1 of 5	20%
14	190	27	120	<4	80	14	380	1 of 7	14%
19A	69	1000	116	44	<4	128	55	1 of 7	14%

* 12-15-05 Sampling follows heavy rainfall.

Shaded area from 11-15-05 is a lab estimate.

Attachment C

Breakdown of Household Points Based on Criteria

House #	Points	Location
23	85	Flat Creek
3	76	Sycamore
14	75	Flat Creek
30	72	Flat Creek
41	72	Main Left to Dog Bone
60	71	Stinson
18	70	Flat Creek
58	67	Stinson
8	67	Main Left to Dog Bone
10	67	Wolf Branch
9	66	Left Fork: Flat Creek to Stinson
13	65	Flat Creek
83	64	Old House
62	63	Stinson
47	55	Left Fork: Dog Bone to Flat Creek
49	55	Bark Camp
6	54	Main Left to Dog Bone
4	52	Bark Camp
11	51	Flat Creek
15	48	Bark Camp
48	47	Left Fork: Dog Bone to Flat Creek
17	47	Main Left to Dog Bone
33	43	Dog Bone
2	42	Bark Camp
36	37	Main Left to Dog Bone
85	36	Main Left to Dog Bone
39	36	Left Fork: Stinson to Elkins
43	33	Bark Camp

70	33	Main Left to Dog Bone
7	33	Bark Camp
40	30	Left Fork: Stinson to Elkins
55	22	Senging Br
84	19	Sycamore
80	19	Main Left to Dog Bone
82	19	Main Left to Dog Bone
81	16	Main Left to Dog Bone