

**Zoar Levee and Diversion Dam, Dam Safety Modification Study**  
**Community Advisory Committee**  
**Meeting Summary**  
**August 16, 2012**  
**7:00-8:30 pm**  
**Zoar School House**

A regularly scheduled Zoar Levee & Diversion Dam, Dam Safety Modification Study, Community Advisory Committee (CAC) meeting was held at the Zoar School House on August 16, 2012. Those present included: Mayor Larry Bell (Zoar), Kathie Bjork (Zoar), Bill Bjork (Zoar), Chuck Knaack (Zoar), Sandy Worley (Zoar), Dave Bennett (Bolivar), George Kane (Ohio Historical Society), Aaron Smith (USACE), Adam Kays (USACE), Rodney Cremeans (USACE), Darin White (USACE), and Tom Leach (USACE).

Rodney Cremeans began the meeting by thanking everyone for attending and requesting that everyone fill in the sign-in sheet for the meeting minutes. Everyone then introduced themselves around the table.

Aaron Smith had previously distributed the June 14, 2012 meeting minutes by email and asked if anyone had any changes, comments or additions to the minutes. There were no responses and he indicated that any changes could be emailed to him at a later date.

Adam Kays discussed that the Risk Communication Card had been finalized for distribution, but that USACE was waiting for the Data Logger at the Zoar Diversion Dam to be hooked up to the electric and phone so that it's signal can be transmitted to the GOES satellite and the Huntington District's website.

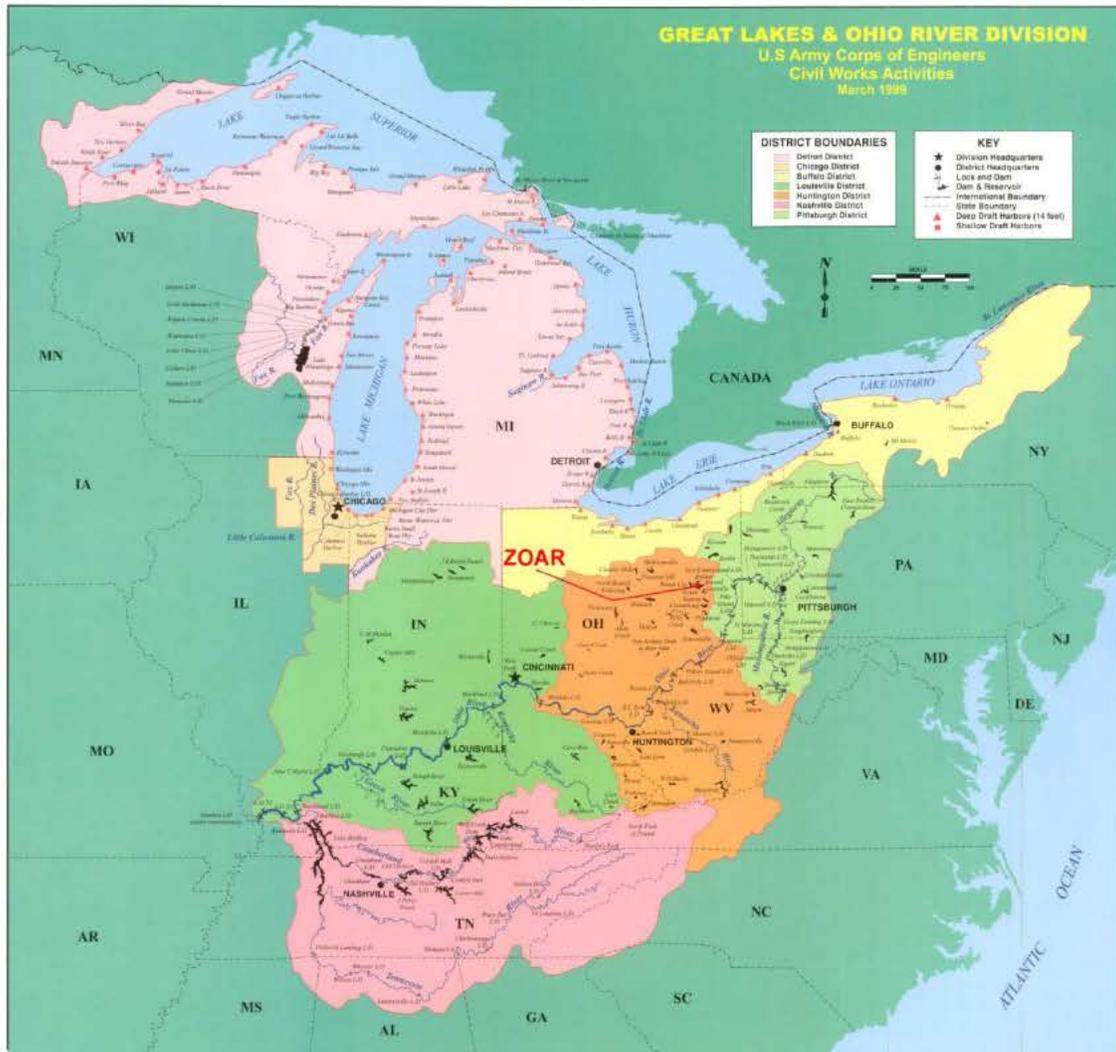
Tom Leach noted that we had put in work orders to both Frontier and AEP and USACE was at their mercy. Tom Leach added that USACE had installed all of our equipment.

Darin White, the Engineer Manager for the Zoar Levee and Diversion Dam, Dam Safety Modification Study introduced himself. Darin White explained that he is assigned to the Great Lakes and Ohio River Division, Dam Safety Production Center (LRD-DSPC). He went on to explain that USACE recently decided to provide a DSPC for every Division and that Huntington was awarded the DSPC for LRD. He noted that his job was to coordinate all of the engineering components that go into the Dam Safety Modification Study and act as a technical coordinator between Huntington District and the Risk Management Center. He noted that he was another member of the Project Delivery Team assigned the responsibility of completing the Dam Safety Modification Study.

Rodney Cremeans provided a summary of the Great Lakes and Ohio River Division and how USACE is organized. USACE is organized top-down as such:

- (1) Headquarters in Washington D.C. is a Major Command (MACOM) in the Department of Army;
- ↓
- (2) Divisions are Major Subordinate Commands (MSC) in the Department of Army;
- ↓
- (3) Districts are Installations (much like a Military Base) in the Department of Army:

Districts are divided geographically by watersheds and not political boundaries. For example, Huntington District is made up of major watersheds in Ohio, West Virginia, Kentucky, Virginia and North Carolina. Huntington District is within the Great Lakes and Ohio River Division, which includes seven (7) districts and covers all drainage basins that empty into the Great Lakes or Ohio River. A map below shows the geographic limits of the Great Lakes and Ohio River Division and its seven (7) Districts. The civil works boundary for Zoar is shaded orange.



Darin White went on to say that Huntington District was also named the national Mandatory Center of Expertise (MCX) for Dam Safety in USACE. Darin noted that this meant that Huntington District was responsible for overseeing all technical and policy issues associated with Dam Safety projects across the nation within USACE. Darin White noted that the MCX and DSPS had just been started and that roles and responsibilities were still being defined.

Mayor Bell asked if Darin White would be giving the CAC and stakeholders regular updates on the Engineering analysis, or if the public would only get to see this at the end of the study.

Aaron Smith responded by saying that, as with all things in this study, we will be sure to keep all of our stakeholders informed thru open and honest coordination. Aaron Smith noted that Darin White will be attending all future CAC meetings and public meetings in which we provide the public in-progress summaries and chances to comment and participate in the formulation, evaluation, and comparison of alternatives.

Rodney Cremeans also assured the group that we will continue to work as a team as we go forth with this study.

Mayor Bell then relayed a story about how many different people from different organizations he met during his participation in the recent Change-of-Command ceremony that took place in Huntington. (\*NOTE: Huntington District is now commanded by COL McGugan. COL Peterson has taken a job as the Deputy Commander at the Great Lakes and Ohio River Division).

Aaron Smith explained that the Huntington District and USACE was made up of many different sections, branches and divisions, each with unique roles and responsibilities. However, Aaron Smith went on to provide a summary of the Project Delivery Process USACE uses for a project like the Zoar Levee & Diversion Dam, Dam Safety Modification study.

In general, each project is assigned a Project Manager (PM). Rodney Cremeans is the PM for the Zoar Levee and Diversion Dam, Dam Safety Modification Study. It is the PM's responsibility to reach out to all of the functional elements within Huntington District and USACE to ask for team members that he will lead during the study and implementation of a project. This team is known as the Project Delivery Team (PDT). A good analogy is that Rodney is the head coach of the PDT and it is his responsibility to lead us, even though we all report to different functional bosses or coordinators. The PDT includes members from Engineering and Construction, Planning, Real Estate, Hazardous Waste and Radioactive Waste (HTRW), Operations, the Risk Management Center, the Risk Cadres, and the DSPC. In addition to the PM, each PDT has a Lead Planner, responsible for completing the study phase and a Lead Engineer, responsible for ensuring the project is implemented as planned. For the Zoar Levee & Diversion Dam, Dam Safety Modification Study, the Lead Planner is Aaron Smith. The Lead Engineer is Darin White.

Rodney Cremeans then provided an update on the Baseline Risk Assessment.

Rodney Cremeans reminded the CAC that Huntington District had received a draft of the Baseline Risk Assessment in June of 2012. This draft had some serious issues and was not ready for a full review by Huntington District, called a District Quality Control (DQC). Rodney Cremeans went on to say that the Baseline Risk Assessment had lots of good data, but that it was poorly assembled and did not provide an adequate explanation of the total project risk. Rodney Cremeans added that this Risk Cadre also failed to come to consensus on the risk the Diversion Dam had to the public.

Rodney Cremeans reminded the CAC that Huntington District assembled approximately 20 pages of comments to help the Risk Cadre revise the draft report and then resubmit for DQC review.

Rodney Cremeans noted that we hoped to receive the draft report on August 2, 2012. However, since that time, Huntington District has learned that the RMC had dissolved all the Risk Cadres across the nation, including the Zoar Levee & Diversion Dam Risk Cadre.

Rodney Cremeans went on to explain that a new business model for completing Baseline Risk Assessments had been developed in recognition that the old model was not working. The old model assembled Risk Cadre's from individuals across the nation with other duties and requirements.

Rodney Cremeans explained that this model was creating inefficiencies. The new business model assigns a Risk Cadre that is located in one District. In other words, the new Risk Cadre all live and work in the same city (Boston, Massachusetts) and they are dedicated to Zoar Levee and Diversion Dam, Dam Safety Modification Study and three other projects and no other duties.

Rodney Cremeans continued by saying that the District has developed a Scope of Work for the new Cadre to complete the Baseline Risk Estimate, that includes a time-frame for completing the draft report, submitting it to Huntington District for DQC review, preparing it for review by an Agency Technical Review (ATR), a review by the Quality Control and Consistency (QCC) panel and finally approval by the Senior Oversight Group (SOG) for dam safety.

Rodney Cremeans indicated, at a minimum this work will likely cause a 5 month slip in the total schedule, but it could be more. Rodney Cremeans explained that the schedule submitted to the RMC will have to be reviewed by them and then will be negotiated with Huntington District.

Aaron Smith noted that while this delay is frustrating, the Risk Cadre will not be starting from scratch and will have the benefit of the previous work done and the Huntington District comments made on it. However, this new Risk Cadre will want to review all of this data, as they will have to "own" the final product they develop.

Darin White added that this new business model should be more successful, as Risk Cadre's are dedicated to the work they are assigned and nothing else. He noted that the Zoar Risk Cadre has one project ahead of it, but that project was nearly complete so he anticipated that they should be available to start work soon.

Mayor Bell asked why not assign a Risk Cadre in Huntington District or move the Risk Cadre to Huntington District to do this work.

Darin White responded by saying that the RMC wanted each Risk Cadre to be independent from the District so that they could provide an independent and unbiased review of the data. He also noted that Huntington District will be working closely with the Risk Cadre and will travel to Boston, if necessary. However, Darin White also noted that we had the ability to work remotely thru webinars and video-conferencing.

Aaron Smith added that one of Darin White's roles as the Engineer Manager from the Dam Safety Production Center was to act as a liaison between the Huntington District and the Risk Cadre.

Aaron Smith stated that we hoped to have the Risk Cadre participate in an on-site meeting at Zoar Levee & Diversion Dam the week of September 17, 2012.

Mayor Bell suggested that the Risk Cadre get a tour of the Village.

Rodney Cremeans and Aaron Smith indicated that this was a very technical group that needed to stay focused narrowly on the geological, geotechnical, and hydraulic issues with the levee and diversion dam. As such, Huntington District wanted the Risk Cadre to dedicate their time in Zoar going thru the previous Baseline Risk Assessment and making sure that they had a thorough understanding of the project.

Aaron Smith added that the Huntington District would be providing thorough documentation concerning what Zoar Levee & Diversion Dam protects and what the consequences from failure would be. Aaron Smith noted that Kurt Buchanan was the consequences team member on the Risk Cadre and he is based in Huntington District.

Aaron Smith noted that once the Baseline Risk Assessment was completed and went thru all the required reviews discussed above (e.g. DQC, ATR, QCC and SOG), it would be combined with the data that Huntington District is working hard to collect, including the Historic Property Baseline Study, the Community Impacts Baseline Study and the Terrestrial and Aquatic Habitat Study, the economic analysis of what is at risk and what costs would be in a no-action scenario. This information in total is referred to as the Baseline Condition.

Aaron Smith noted that Huntington District is also working to preliminarily analyze several non-structural measures discussed at the last CAC meeting (See Notes from 14 June 2012). As discussed in the past, we do not need to await the results of the Baseline Risk Assessment to conduct preliminarily analysis of non-structural measures to see if they should be carried forward in the study.

Aaron Smith added that once the total Baseline Condition was assembled and the non-structural measures had been preliminarily analyzed, the next step would be a milestone meeting with the review and approval chain in USACE, called the Vertical Team.

Aaron Smith indicated that Huntington District was going to try to have this meeting in Zoar and members of the Vertical Team would appreciate a tour of Zoar Village at this time.

Aaron Smith then passed out copies of the Management Summary completed for the Historic Property Baseline Study. Aaron Smith noted that this was only an in-progress review and all conclusions within should be considered preliminary.

Aaron Smith explained that he would be receiving a draft of the full report the week of August 20, 2012 and it was estimated to be approximately 900 pages long. Aaron Smith stated that once the draft had been reviewed by Huntington District it would be distributed to all stakeholders for their review and comment before finalizing.

Kathy Bjork asked why Zoar Levee & Diversion Dam is in this situation and if it is unique in nation for these issues it is having.

Darin White responded by saying that Zoar Levee & Diversion Dam is unfortunately not unique. That USACE has a large portfolio of aging infrastructure with significant problems that require careful study and remediation.

Aaron Smith added that USACE constructed a large amount flood risk management structures during the Great Depression, as a result of the “New Deal” and the National Industrial Recovery Act. As this infrastructure is now 70+ years old, issues are beginning to become more apparent. Aaron Smith noted that in the case of Zoar Levee & Diversion Dam, significant pools behind Dover Dam brought to light issues that have existed since they were built (e.g. unsuitable foundation material). Aaron Smith also added that some dam safety issues are also recognized due to the advancement of the field of engineering.

Rodney Cremeans added that Wolf Creek Dam, which impounds Cumberland Lake in Kentucky and helps reduce flood damages to Nashville, Tennessee, is having significant dam safety issues due to a karsts limestone foundation that often forms large underground caverns.

Bill Bjork asked how climate change affects the risk from Zoar Levee & Diversion Dam. Specifically, he was concerned that prolonged periods of drought might lead to expansion and cracking of the impervious shells within Zoar Levee & Diversion Dam.

Adam Kays responded that many levees do have to worry about this issue. Adam Kays explained that earthen levees and dams that use clay with high plasticity are particularly subject to swelling and cracking due to changes in temperature and moisture.

However, Adam Kays explained that Zoar Levee & Diversion Dam do not have this type of clay in their matrix. Therefore, Adam Kays noted that the likelihood of cracking occurring was very low and if any cracks did appear, they would likely heal themselves. Adam Kays noted that he recently walked Zoar Levee & Diversion Dam and did not see any evidence of cracking due to lack of moisture.

Aaron Smith added that Zoar Levee & Diversion Dam is subject to regular periodic inspections. Aaron Smith asked if cracks had ever been observed during these inspections.

Adam Kays stated that cracks have never been recorded at Zoar Levee & Diversion Dam.

Bill Bjork asked if cracking was considered as a potential failure mode at Zoar Levee & Diversion Dam during the Baseline Risk Assessment.

Adam Kays said that the original Risk Cadre brainstormed all the potential failure modes they could think of, including cracking resulting from long-periods of dry weather. Adam Kays went on to explain that the original Risk Cadre dismissed this as a significant failure mode because the levee & diversion dam did not include clays with high plasticity and if cracks were to occur they would be during dry weather and could be re-paired prior to the levee having to hold back any water.

Aaron Smith updated the CAC quickly on the development of a USACE website dedicated to Zoar Levee & Diversion Dam, Dam Safety Modification Study. Aaron Smith stated that the website will include notes and agendas from these meetings, as well as other stakeholder engagements and public meetings. Aaron Smith said the website will also include the latest study data collected, and a copy of the Interim Risk Reduction Measure (IRRM) Plan and a summary of the IRRMs implemented to date. Aaron Smith also noted that the Review Plan (handed out at the June 14 2012 CAC meeting) will on the website as

well. Aaron Smith requested feedback from the CAC on other things that would be useful to include on the website.

Bill Bjork asked if this new website would cause any changes to the [zoarlevee@usace.army.mil](mailto:zoarlevee@usace.army.mil) email or any of the Huntington District's URLs.

Aaron Smith responded by saying that the email address will not change, but the URL's for Huntington District's websites will all change, as we just migrated to a new Department of Defense server and format.

Bill Bjork handed out a copy of a tri-fold business card containing an issue summary developed by Zoar Village to hand out to people whom they engaged or were engaged by. The card has information on how to contact Huntington District to provide comments, as well URLs for relevant community and National Trust for Historic Preservation websites.

Aaron Smith said that nothing on this business card would have to change due to the new Huntington District website.

Mayor Bell requested a copy of the URL address as soon as possible so that it can be incorporated into new literature developed by Zoar Village and other stakeholders.

Mayor Bell asked Aaron Smith if he had been getting many comments recently.

Aaron Smith noted that he has received a couple hundred form letters and postcards since the last meeting. Aaron Smith also said he gets usually between 3-4 comments from the National Trust for Historic Preservation's website (<http://www.savingplaces.org/treasures/village-zoar>) a week. Aaron Smith noted that he received a call from a person who had visited this website and believed that taxpayer dollars should not be spent on protecting Zoar Village.

Aaron Smith added that the Advisory Council on Historic Preservation (ACHP) had included Zoar Levee & Diversion Dam, Dam Safety Modification Study in its most recent case digest. This can be found at: <http://www.achp.gov/docs/CaseDigestSummer2012.pdf>.

Mayor Bell delivered more postcards developed by Zoar Village all showing support for a rehabilitation of Zoar Levee & Diversion Dam.

### **UPDATE AS OF 16 AUGUST 2012:**

#### **APPROXIMATE NUMBER OF TOTAL COMMENTS RECEIVED: 937**

**~874 GENERAL PUBLIC (394 FROM POSTCARDS / 76 FROM NATIONAL TRUST WEBSITE) COMMENTS**

**~8 COMMENTS FROM ACADEMICS OR ACADEMIC INSTITUTIONS**

**~7 INTERNATIONAL COMMENTS**

**~19 COMMENTS FROM DESCENDANTS**

**~15 COMMENTS FROM HISTORICAL SOCIETIES**

**~14 COMMENTS FROM GOVERNMENTS OR OTHER PUBLIC INSTITUTIONS/ORGANIZATIONS**

Bill Bjork noted that Zoar Village was working to engage as many people as possible thru awareness campaigns and media attention. Bill Bjork noted that his wife, Kathy Bjork, had recently spoken to a reporter from Fox News while attending a Mitt Romney campaign event where Paul Ryan was speaking.

Bill and Kathy Bjork noted that the reporter seemed very interested and they hoped that a story would develop from it.

Aaron Smith reminded the CAC that any comments or concerns the public have need to be directed to the Huntington District in order to be taken into account in the Dam Safety Modification Study. He noted that the CAC was welcome to give the following contact information to submit comments.

Aaron O. Smith  
US Army Corps of Engineers  
Huntington District  
502 Eighth Street  
Huntington, West Virginia 25701-2070  
Email: [zoarlevee@usace.army.mil](mailto:zoarlevee@usace.army.mil)  
Voice: (304) 399-5720

Aaron Smith also noted that media coverage was usually not counted as public comments.

Aaron Smith and Rodney Cremeans noted that Huntington District is happy to participate in media interviews to help educate the public about the study process and progress. If the CAC wanted Huntington District to participate in any media interviews or coverage, they should direct the media to our Public Affairs Officer, Brian Maka at 304-399-5550.

The meeting adjourned.

**NEXT MEETING:**

The next CAC meeting is scheduled for  
Thursday September 20, 2012  
between 7:00 and 8:30 pm  
at the Zoar School House.

**Prepared By:**

Aaron Smith, Lead Planner, USACE