



## CITIZENS ADVISORY COMMITTEE

October 23, 2013

6:30 – 8:00 p.m.

McCloskey Room (#135)

*Suggested  
Time:*

- 6:30pm I. Call to Order and Introductions
- II. Approval of Minutes:  
a. September 25, 2013
- III. Communications from the Chair
- IV. Reports from Officers and/or Committees  
a. Project Updates  
b. MTP Task Force
- V. Reports from MPO Staff
- VI. Old Business
- 6:45 pm VII. New Business  
a. National Highway System\*  
b. National Truck Network\*  
7:30 pm c. Federal Functional Classification\*  
d. Project Selection Process Discussion
- VIII. Communications from Committee Members (*non-agenda items*)  
a. Topic suggestions for future agendas
- IX. Upcoming Meetings  
a. Policy Committee – November 8, 2013 at 1:30 p.m. (Council Chambers)  
b. Technical Advisory Committee – November 20, 2013 at 10:00 a.m. (McCloskey Room)  
c. Citizens Advisory Committee – November 20, 2013 at 6:30 p.m. (McCloskey Room)
- ~ 8:00 pm X. Topic Suggestions Under Consideration for Future Discussion  
Communication & Public Coordination Improvements, Bike/Pedestrian Set Aside Money

Adjournment

*(\*Recommendations Requested / \*Public comment prior to vote – limited to five minutes per speaker)*



**Citizens Advisory Committee Meeting Minutes**  
**September 25, 2013 McCloskey Conference Room 135, City Hall**

*Citizens Advisory Committee (CAC) Minutes are transcribed in a summarized outline manner.  
Audio recordings of the meeting are available in the Planning Department for reference.*

**Attendance**

Citizens Advisory Committee (Voting Members): David Sabbagh, David Walter, Elizabeth Cox-Ash, James Reed, Ken Campanella, Larry Jacobs, Patrick Murray, Glenn Carter, Sarah Ryterband, Sarah Clevenger, Anita Douglas, Mary Jane Hall, Ted Miller, Paul Ash, Laurel Cornell, Jack Baker, Morris Buckley, Ross Dybrig, Tamby Cassidy, Randy Cassidy, Larry Jacobs, Ayman Ashwaiheen, Keith Williamson, Liz Irwin, Chaim Julian

Others in Attendance (including Non-Voting CAC Members): Jim Ude (INDOT), Sandra Flum (INDOT), Vince Caristo (MPO Staff), Josh Desmond (MPO Staff), Anna Dragovich (MPO Staff)

**I. Call to Order and Introductions (~6:30 PM)**

**II. Approval of Minutes** – The August 28, 2013 minutes were approved by the Committee.

**III. Communications from the Chair** – none

**IV. Reports from Officers and/or Committees**

**A. MTP Task Force** – Mr. Desmond reported that the consultant continues to work on the traffic demand model. Staff will be meeting with the consultant on October 31 for an update on the traffic demand model. The next meeting of the Task Force will be on October 28 and they will continue to discuss the vision statement along with goals and policies for the plan.

**B. Project Updates** – Ms. Dragovich read an update of I-69 as requested by Sandra Flum. INDOT and the Indiana Finance Authority continue to draft the request for proposal documents and technical provisions which will be finalized in mid-October for the short-listed teams to prepare bids. The right-of-way acquisition process has begun (appraising) with some of the property needed for the roadway or access roads. It will take several months to acquire the needed property. We are working with utilities to identify necessary moves or where the design of the road can avoid utilities. This work will continue through 2014.

**V. Reports from MPO Staff** – none

**VI. Old Business** - None

**VII. New Business**

**A. Transportation Improvement Program Amendments**

- 1. INDOT Emergency Bridge Inspections** – Ms. Dragovich explained that the TIP amendment request is for \$50,000 in FY 2014. This money would be used under unforeseen circumstances such as a truck running in to a bridge that would require an unscheduled, emergency bridge inspection. **\*\*\*Ms. Cornell made a motion to approve the amendment and Ms. Ryterband seconded, motion was approved by voice vote\*\*\***
- 2. INDOT Statewide Quality Assurance/Quality Control of Bridge Inspection Data**  
Ms. Dragovich explained that this amendment request is for \$250,000 in FY 2014 for Statewide quality assurance of bridge inspection data. She said that this money is used

to make sure that bridge inspection data is filled out completely and correctly. **\*\*\*Ms. Cornell made a motion to approve the amendment and Ms. Ryterband seconded, motion was approved by voice vote\*\*\***

**MCCSC – Safe Routes to Schools Non-Infrastructure** – Ms. Dragovich explained that this project was in the previous 2012 – 2015 TIP and was not included in to the new 2014-2017 TIP by mistake. In order for MCCSC to continue to spend the money, it needs to be in the most current TIP. She explained that this is not a new SRTS grant, but a carryover from a previous award. **\*\*\*Ms. Cornell made a motion to approve the amendment and Ms. Cox-Ash seconded, motion was approved by voice vote\*\*\***

#### **B. HSIP Selection Process**

Mr. Desmond explained the selection process is meant to rank projects that should receive HSIP funds. He explained that the HSIP funding source is rooted in safety mentality, the safety category is the one with the most weight. Additionally, a project with a high benefit/cost ratio, immediate readiness and ability to have a larger than required local funding match are all included in the ranking system. **\*\*\*Mr. Baker motioned approval and Mr. Ash seconded, motion was approved by voice vote\*\*\***

#### **C. TA Selection Process**

Mr. Desmond presented the proposed TA selection process. He explained that this allows the MPO to prioritize projects with a selection committee. Mr. Caristo mentioned that project readiness is weighted the most in this selection process. **\*\*\*Ms. Hall motioned approval and Mr. Ash seconded, motion was approved by voice vote\*\*\***

### **VIII. CAC Chair and Vice-Chair Roles and Responsibility Discussion**

The CAC discussed the roles and responsibilities relating to the Vice-Chair and Chair as they represent the CAC at Policy Committee meetings. Ms. Ryterband explained that historically the CAC didn't have a seat at the Policy Committee. Ms. Ryterband suggested that the Chair be required to vote at Policy Committee meetings the same way that the CAC voted. Mr. Baker commented that in a representative democracy a person should be able to vote their conscience. Mr. Murray agreed with Mr. Baker and mentioned that the views of the CAC should be reported to the Policy Committee regardless of how the CAC Chair makes his vote. Discussion ensued. **\*\*\*Mr. Campanella motioned to end the discussion, Ms. Irwin seconded\*\*\***

### **IX. Communications from Committee Members**

#### **A. Topic Suggestions for Future Agendas**

Mr. Carter requested that INDOT talk about IDEM report and give a summary of the report.

### **X. Upcoming Meetings**

**A. Policy Committee – September 25, 2013 (Council Chambers)**

**B. Technical Advisory Committee – September 25, 2013 at 10:00am (McCloskey Room)**

**C. Citizens Advisory Committee – September 13, 2013 at 6:30pm (McCloskey Room)**

### **XI. Topic Suggestions under Consideration for Future Discussion**

**Adjournment (~8:00 PM)**

*These minutes were \_\_\_\_\_ by the CAC at their regular meeting held on September 25, 2013.*

**MONROE COUNTY PLAN COMMISSION**

*and office of the*

**MONROE COUNTY BOARD OF ZONING APPEALS**

Monroe County Government Center, 501 N. Morton St., Suite 224

Bloomington, IN 47404

Telephone: (812) 349-2560 / Fax: (812) 349-2967

<http://www.co.monroe.in.us/tsd/Government/Infrastructure/PlanningDepartment.aspx>



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TO: Indiana Department of Environmental Management, Indiana Department of Natural Resources, Indiana Department of Transportation, U.S. Fish & Wildlife, Environmental Protection Agency, U.S. Army Corps of Engineers

FROM: Monroe County Plan Commission

DATE: Thursday, July 18, 2013

RE: Complaint of Sedimentation of Indian Creek Tributaries from I-69 Corridor Construction

To Whom It May Concern,

After receiving numerous complaints from residents about the progressively worsening condition of Indian Creek and its tributaries in Monroe County following storm events, the Monroe County Plan Commission conducted an inquiry concerning its obligations under Section 802-4 (G) of the Monroe County Zoning Ordinance (Performance Standards for Permitted Uses: Water Pollution). While the Plan Commission clearly understands the jurisdictional prerogative of the State of Indiana within the boundaries of its I-69 corridor in Indian Creek Township of Monroe County, impacts of construction activity that extend beyond that corridor are well within our purview as they relate to concerns of Monroe County residents.

Residents with long tenure in Indian Creek Township complain that soil is running off the I-69 construction site and into sinkholes, aquifers, wells, and streams, thereby causing harm to water supplies and the natural environment that is part of their way of life. This harm has reached unprecedented levels since construction began last year and appears to be increasing in intensity as construction activity continues.

On Tuesday, June 18, 2013, and again on Tuesday, July 16, 2013, the Commission received resident testimony, gathered evidence reports, and discussed concerns about degraded water quality in Indian Creek Township. Some of that evidence is included with this memorandum and the testimony and discussion is available in our meeting minutes accessible through the Monroe County Planning Department website:

<http://www.co.monroe.in.us/tsd/Government/Infrastructure/PlanningDepartment.aspx>.

Clearly, the increasing degradation of water quality is affecting the potable water source for several residents as well as the fish and wildlife communities. Typically, the extent of impact is evident only when an underground water course carrying I-69 road construction sediment emerges miles from the I-69 corridor and becomes visible at roadway bridges downstream. That this increase in sediment load both above and below ground is the result of I-69 construction activity is irrefutable to us.

The Zoning Ordinance of Monroe County derives its authority and jurisdiction from enactment

"pursuant to the Indiana home rule and planning enabling legislation (Indiana Code § 36-1-3-4 and Indiana Code § 36-7-4-1, et seq., as amended), and pursuant to the Monroe County Code and all other applicable authorities and provisions of Indiana statutory and common law..." Notably, Monroe County Code Section 802-4(G) incorporates State and Federal water quality standards including, without limitation:

IC 13-30-2-1 "A person may not... (1) Discharge, emit, cause, allow ... any contaminant... into: (A) the environment; ... in any form that causes or would cause pollution that violates or would violate rules, standards, or discharge or emission requirements...."

IC 13-18-4-5)(a) "...a person may not: ... (2) cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed; into any of the streams or waters of Indiana any organic or inorganic matter that causes or contributes to a polluted condition of any of the streams or waters of Indiana...."

327 IAC 15-5-7(b)(15). "Natural features, including wetlands and sinkholes, shall be protected from pollutants associated with storm water runoff;"

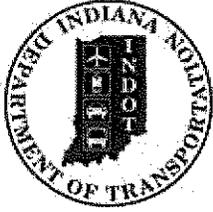
We share our residents concern that violations of both the original 1993 Karst MOU (Memorandum of Understanding) and the updated Karst Agreement must be occurring as well as direct violation of erosion control Rule 5. The I-69 construction activity is the only identifiable source of such a large increase for sediment now evident in springs and streams after storm events.

As regulators, we understand that large construction projects are very difficult to manage. In this case, the presence of karst makes the task even more difficult. However, construction personnel must abide by rules and regulations enacted to protect the public, and those responsible for their actions must assure that the rules and regulations imposed have the intended consequence of protection. The evidence presented to us and our investigation of the situation indicates that the obligation for responsible action lacks sufficient commitment. Please manage I-69 construction activities in a manner that does not cause harm to our resident's property and the livability of their community. We are depending upon you to exercise your jurisdictional authority in ways that do not conflict with our obligation to residents of Indian Creek Township and the rest of Monroe County.

The Commission expects that you will attend to our concerns about the ongoing erosion control problems with respect to protecting our water quality as mandated by the laws of this State and Nation. We ask that you provide an appropriate response in writing to our complaint and specify the means by which you will substantially eliminate the off-site impacts to water quality that is now occurring for residents of Indian Creek Township. We also ask that you provide us with any reports of inspections that you have or do conduct during the construction activities so that we may provide our residents with assurance of your attention to their concerns.

Respectfully,

Richard A. Martin  
President,  
Monroe County Plan Commission



**INDIANA DEPARTMENT OF TRANSPORTATION**  
*Driving Indiana's Economic Growth*

I-69 Project Office  
P.O. Box 759  
60 N. Commercial Park Drive  
Washington, IN 47501

PHONE: (812) 254-2831  
FAX: (812) 254-9911

**Michael R. Pence, Governor**  
**Karl B. Browning, Commissioner**

September 9, 2013

Monroe County Plan Commission  
Attn: Richard Martin, President  
Monroe County Government Center  
501 N. Morton St.; Suite 224  
Bloomington, IN 47704

Re: Concerns with I-69 construction impacts to Indian Creek Township

Dear Mr. Martin:

This letter constitutes INDOT's formal response to the letter that INDOT has received on July 18, 2013 from Richard Martin on behalf of the Monroe County Plan Commission regarding the potential impacts of the construction of I-69 within the Indian Creek Township area.

During the week of June 17, 2013, INDOT conducted site visits with State and Federal regulatory agencies including USEPA, USACE, FHWA, and IDEM. The representatives from each of these agencies were taken to the Indian Creek Township area, particularly the area adjacent to the Thomas and Sandra Tokarski property. The field review included detailed observations of Karst features, some of which were completed and some that were in the process of being treated. Additionally, the representatives walked the construction areas to inspect erosion and sediment control measures that were installed and implemented in accordance with the required permits. In Section 4 of I-69 all contractors are contractually obligated to place signs identifying the location of all Karst features as well as all jurisdictional streams located within their construction limits. The signing makes conducting field visits much more efficient and practical. IDEM did issue INDOT a violation letter which is attached. IDEM has since confirmed that the violations have been brought into compliance which is also attached.

According to project field data, the Indian Creek area located within contract IR-33739 experienced significant rainfall events on June 26 and 27, 2013. These events exceeded an intensity of 6 inches per hour. The storm water quality measures included in the Storm Water Pollution Prevention Plan for this contract are required to be designed to withstand a rainfall intensity of up to 2 inches per hour. Due to the intensity of these events, a number of the storm water quality measures were overwhelmed, resulting in the loss of sediment from the project and into jurisdictional waters. Under the 401 Permit issued to INDOT for Section 4, Conditions 36 & 37 state respectively that "In areas determined to be out of compliance, corrective action to bring the area back into compliance shall take precedence over continuation of construction activities;" and "Upon discovery, remove all discharges of sediment into waters of the state and restore the stream channels back to the original grades, contours, substrates, and vegetated conditions. This includes sediment discharges off right-of-way,

provided access has been granted by the property owner. If access is denied, IDEM shall be notified". Following the June 26<sup>th</sup> and 27<sup>th</sup> rain events, field inspections were conducted throughout the contract to evaluate how well all of the storm water quality measures functioned, to identify the control measures that were overwhelmed and to identify the sediment loss as a result of the event. The evaluation and identification team included the Storm Water Specialist with IDEM who is providing I-69 Compliance Assistance. The results of the evaluation and identification process were then provided to the contractor for corrective action. The contractor was expected to take immediate action to start repair efforts to the overwhelmed control measures and to initiate actions for the removal of the sediment that had been lost. The contractor immediately dispatched labor crews that used shovels and five gallon buckets to remove sediment from sensitive areas including streams and drainages that lead to off right of way sink holes, etc. This was the fastest methodology that could be implemented in an effort clean up the sediment. The results were not adequate to "fully" clean up the sediment. Also it was estimated that the use of that methodology would greatly exceed INDOT's expectation for timely remediation and clean-up. INDOT informed its contractors that alternative methods, such as vacuum trucks, would be necessary to accomplish complete removal in some areas within INDOT's planned timeframe.

INDOT requires contractors to clearly detail how they plan to remove the sediment while not creating additional detrimental impacts to the water quality of the jurisdictional streams and agreed that vacuum trucks would be the most effective in achieving the desired results in this type of terrain. Attached are the required erosion and sediment control inspection reports, post rain events and/or weekly, from June 24<sup>th</sup> thru July 22<sup>nd</sup>. In accordance with contract documents, INOT is obligated to financially compensate the contractor for erosion and sediment control work associated with rain events that exceed the design capacity of the installed features. Force account billing information has also been attached for the weeks of June 29<sup>th</sup>, July 6<sup>th</sup> and July 13<sup>th</sup> which is representative of the level of effort expended by the contractor. The vacuum trucks are expensive specialized equipment, and are in limited availability. INDOT has informed the contractor that the sediment clean-up must be aggressively pursued to meet the expectations of the regulatory agencies.

For sediment that was lost off INDOT's right of way, the contractor is required to acquire permission from the private property owner to perform the removal procedure. Gohmann has been working through that process with each of the respective landowners of the sites that have been identified. According to Project Engineer, Gohmann just recently obtained permission from the all but one of the affected landowners in the Indian Creek Township area. Field investigations have confirmed that the subsequent rain event from July 20, 2013, when approximately 0.9 inches of rain were received in about a 2 hour period in the Indian Creek Township area, caused existing sediment from the June 26, 2013, event to move further downstream. No additional failures of the installed storm water quality measures were identified; however, the re-suspension and movement of sediment is the likely cause of the discolored water that has been reported by locals in the area. The movement of the sediment has been documented, and the cleanup will also include those areas, assuming that the contractor is granted access from the affected property owners.

Communications from the Monroe County Planning Commission, Thomas and Sandra Tokarski and most recently Patrick Munson also mention concerns with the construction impacts to Karst in the Indian Creek Township area. INDOT field inspections have not identified failures of any of the protective devices implemented for the Karst features as a result of the June 26<sup>th</sup> or July 20<sup>th</sup> events. Any sediment that may have entered the Karst system was due to sediment that was dislodged when the excessive rain overtopped or bypassed the erosion and sediment control devices and subsequently entered Karst features outside of the I-69 right of way. INDOT attributes these issues to the extensive rainfall intensity, not the lack of installation/implementation of the appropriate storm water quality measures or any disregard to the requirements of the Karst agreements in place. The majority of the Karst features located within the I-69 right of way limits have been treated according to what was agreed upon during the design phase through the MOU process. The same process for treatment approval is being followed for those new connections that are being identified during the construction phase. Additional oversight from Karst experts is being provided in the field not only as a resource for the field personnel but also to assure INDOT that the contractors are following the requirements set forth to them through the contract documents.

In the Indian Creek Township area the contractor found in several instances that the Karst features had previously been filled in with trash and other undesirable debris by others. Photos attached provide a representation of the trash and other debris that has been removed from Karst features in the Indian Creek Township area. Obviously this is not desirable material to be in a feature that connects to the water source for residents in the area. A representation of the materials being used to treat the features after excavation and to protect them during construction is also shown in that word document. INDOT has faithfully and fully followed the conditions set forth in the 1993 Karst MOU and the I-69 Section 4 Karst and will continue to do so through the duration of the construction of I-69.

The information contained in the letter from Patrick Munson, which is attached, appears to reference tributaries and their location relative to the Section 4 right of way accurately. The chronological narrative and accounts of sedimentation also appear to be fairly accurate; however, INDOT's Karst team has not verified the time/point data in the document against what the INDOT construction personnel have documented for sedimentation; or the rain gauge documentation from the construction offices. On some occasions the rainfall can vary significantly from one construction area to the next. We do not have any significant disagreement with the statements in the Munson document. However, the statements are very general and do not include any water flow rate quantification nor sediment flux volumes. The Munson document does not substantially prove that the referenced sediment flow is beyond anything naturally occurring in the Karst drainage system. The Munson document also does not demonstrate a phenomenon that has not occurred many times in the geologic history of the area or is likely to occur in the future, with or without land clearing.

INDOT was contacted by Jack Knapp after the June 26<sup>th</sup> rain event with concerns about his well and has since maintained constant communications with Mr. Knapp concerning this issue. Gohmann Asphalt has successfully worked with him toward and has completed a long term solution since INDOT could not assert that the construction of I-69 did not in any way contribute to the impacts to Mr. Knapp's well. As a result of the complaint INDOT conducted a serious of field investigations on the features that have been traced to Harp Spring which feeds Mr. Knapp's well. During one of these investigations it was observed and noted that earth disturbances including logging, unearthing and removal of tree stumps, the placement of the unearthed stumps into a sinkhole, and soil grading activities on private property in the area is occurring. The field investigation did not observe the installation of any storm water quality measures on the private property to address the earth disturbance activities. Based on previous hydrogeology studies and other research by INDOT in the area, it appears that these observed earth disturbances on private property are likely negatively impacting Mr. Knapp's well. Todd Stevenson with the Monroe County Planning Commission & MS4 was notified of this activity on July 3, 2013 by INDOT. INDOT believes there to be several contributing factors to the recent reports of discolored water in Indian Creek Township and would concur that construction of I-69 was one of them during the excessively intense rain events experienced on June 26<sup>th</sup> and 27<sup>th</sup> as well as July 20<sup>th</sup>.

As for the claim in the letter that "INDOT's obligation for responsible action lacks sufficient commitment", INDOT would like to point out the following:

1. INDOT continues to be dedicated to managing erosion and sediment during construction of Section 4 of I-69 by unprecedented staffing with qualified and experienced field personnel. Ronnie Boehm has been assigned full time to I-69 to assist with the daily challenges associated with meeting the conditions set forth in the Rule 5 and Section 401/404 permits for the Corridor. Ronnie has earned the accreditation as a Certified Professional in Erosion and Sediment Control (CPESC), which is the highest certification in the field. Additionally, INDOT has contracted Bernardin Lochmueller and Associates to provide professional staffing which includes Jeremy Kieffner in the managerial role, who is also a CPESC, and one full time erosion control inspector per each I-69 construction contract for oversight in addition to one full time INDOT employee whose sole responsibility is erosion control inspection and reporting. The majority of the inspectors worked in the same capacity on construction contracts over the past 3 years in Sections 1, 2 and 3 of I-69 which provided them great experience. So the 27 miles of construction is staffed with 18 full time field inspectors and 2 CPESCs in managerial roles.

2. INDOT is committed to complying with the terms and conditions of the 1993 Karst MOU and subsequent I-69 Section 4 Karst MOU that has been entered into with DNR, IDEM and U.S. Fish and Wildlife Service. The agreement set guidelines for construction of transportation project in Karst regions of the State in general and specific to I-69 respectively. To meet the conditions of the MOUs, INDOT hosted 6 segment contract specific meetings for the purpose of identification of known Karst features and review of proposed construction treatments of those features. Representatives from the MOU signatories were invited to each meeting which was followed by a field review of the features. Meeting minutes and sign in sheets reflect that Todd Stevenson, Monroe County Drainage Engineer, attended 2 of these meetings and was given the same opportunity to provide input into the process as the other attendees. Additionally, pre-construction Karst field reviews were contractually required to be attended by project supervisors, both INDOT and contractor, prior to construction occurring. Contract requirements also included field identification (signing) and installation of erosion and sediment control protection of Karst features prior to construction commencing. INDOT also granted the request by the Monroe County Drainage Board for a field visit to look at erosion and sediment control protection as well as Karst management on May 6, 2013. Bill Williams, Todd Stevenson, Dana Wilkinson, Robert Auto, Scott Dompke and Kevin Enright attended the field review. INDOT is following the requirements set forth for protection and treatment of Karst within the I-69 Corridor.

As INDOT receives complaints or identifies concerns with erosion control or sediment, our staff immediately begins working on the necessary corrective action. INDOT takes the conditions and commitments that have been set through the environmental studies and design of Section 4 of I-69 very seriously.

Questions or concerns relating to erosion and sediment control on the I-69 Corridor can be directed to my attention at [esturgeon@indot.in.gov](mailto:esturgeon@indot.in.gov) or (812)254-2831.

Kind regards,



Elliott Sturgeon, P.E.  
I-69 Director of Operations

ATTACHMENT A

Letter from Monroe County Plan Commission, July 18, 2013

Email from Thomas and Sandra Tokarski, July 23, 2013

Letter from Patrick J. Munson

**MONROE COUNTY PLAN COMMISSION**

*and office of the*

**MONROE COUNTY BOARD OF ZONING APPEALS**

Monroe County Government Center, 501 N. Morton St., Suite 224

Bloomington, IN 47404

Telephone: (812) 349-2560 / Fax: (812) 349-2967

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TO: Indiana Department of Environmental Management, Indiana Department of Natural Resources, Indiana Department of Transportation, U.S. Fish & Wildlife, Environmental Protection Agency, U.S. Army Corps of Engineers

FROM: Monroe County Plan Commission

DATE: Thursday, July 18, 2013

RE: Complaint of Sedimentation of Indian Creek Tributaries from I-69 Corridor Construction

To Whom It May Concern,

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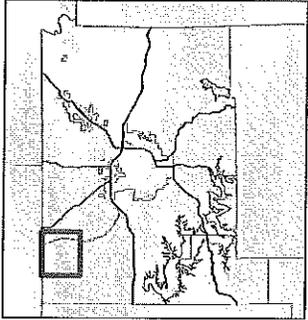
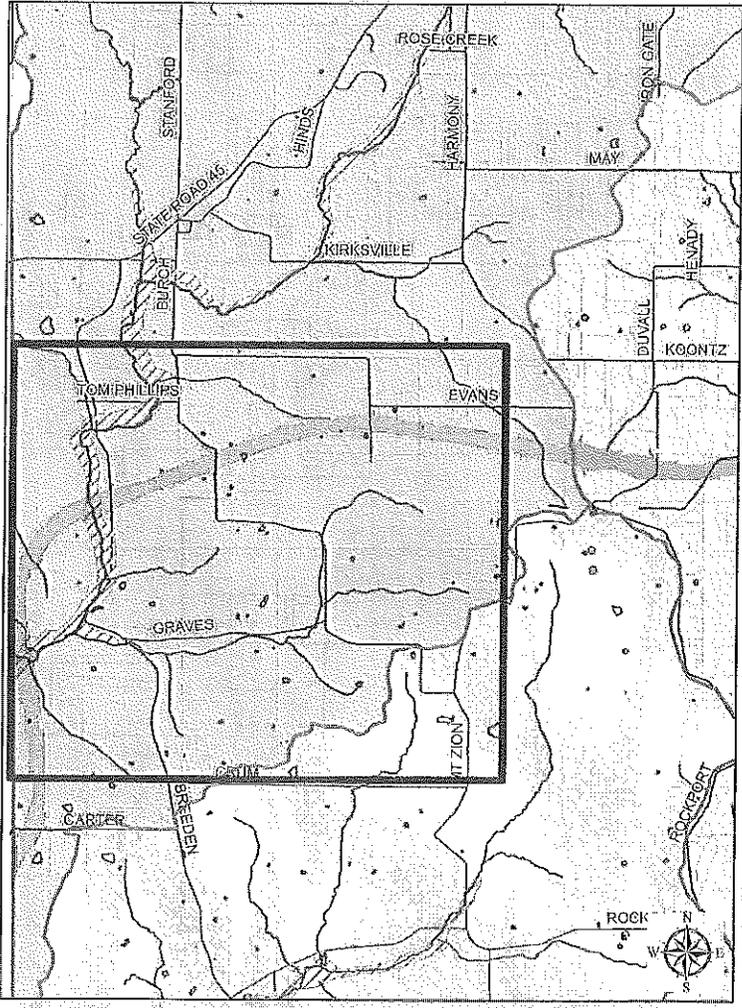
As regulators, we understand that large construction projects are very difficult to manage. In this case, the presence of karst makes the task even more difficult. However, construction personnel must abide by rules and regulations enacted to protect the public, and those responsible for their actions must assure that the rules and regulations imposed have the intended consequence of protection. The evidence presented to us and our investigation of the situation indicates that the obligation for responsible action lacks sufficient commitment. Please manage I-69 construction activities in a manner that does not cause harm to our resident's property and the livability of their community. We are depending upon you to exercise your jurisdictional authority in ways that do not conflict with our obligation to residents of Indian Creek Township and the rest of Monroe County.

The Commission expects that you will attend to our concerns about the ongoing erosion control problems with respect to protecting our water quality as mandated by the laws of this State and Nation. We ask that you provide an appropriate response in writing to our complaint and specify the means by which you will substantially eliminate the off-site impacts to water quality that is now occurring for residents of Indian Creek Township. We also ask that you provide us with any reports of inspections that you have or do conduct during the construction activities so that we may provide our residents with assurance of your attention to their concerns.

Respectfully,

Richard A. Martin  
President,  
Monroe County Plan Commission

# I-69 Area of Off-Site Erosion Concerns



-  I-69 Right of Way
-  Hydrology
-  FEMA Floodplains
-  Wetland-NWI
-  Parcels

## Watersheds(HUC14-USGS)

-  Clear Creek-May Creek
-  Indian Creek-Headwaters (Monroe)
-  Indian Creek-Little Indian Creek

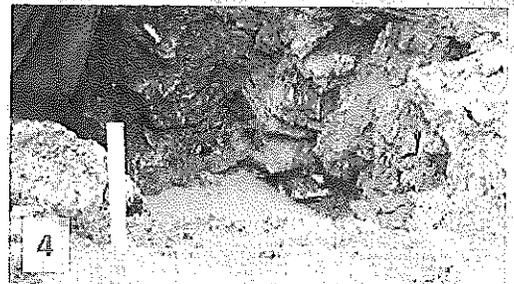
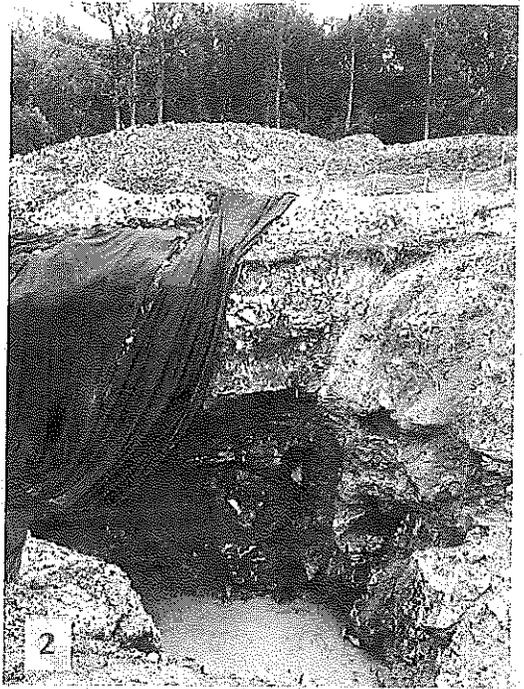
Created by Monroe County  
 Planning Department  
 Data: Monroe County GIS  
 2013



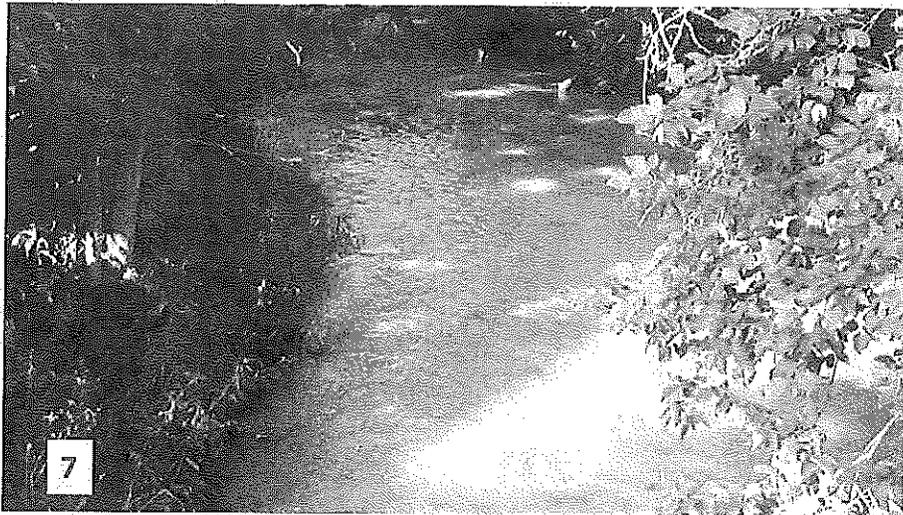


Google Earth Pro











## Lemon, Janelle

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**From:** Thomas & Sandra Tokarski [<mailto:carr@bluemarble.net>]

**Sent:** Tuesday, July 23, 2013 8:33 AM

**To:** Braun, Randy; RANDOLPH, JASON; Deborah Snyder; Scott Pruitt; Flum, Sandra; [Bajor.john@epa.gov](mailto:Bajor.john@epa.gov); Neyer, Mike

**Cc:** Virginia Laszewski; Bill & Jan Boyd; Rudy Savich; Mick Harrison; Julie Thomas; Scott Wells; Andy Ruff; Richard Martin; Tim Maloney; Brian Garvey; Iris Kiesling; Patrick Stoffers

**Subject:** severe sedimentation in stream and karst

To All Concerned,

This is being sent as a formal complaint due to severe sedimentation of a stream in Section 4 of the I-69 highway project. This stream is designated as "Waters of the US" by the US Army Corps of Engineers. This complaint is related to conditions observed in Indian Creek Township of Monroe County, Indiana. This is another in a long list of complaints in this area due to the construction of I-69.

On Saturday, 20 July, we had 0.9 inches of rain over about a 2 hour period.

I observed the unnamed, intermittent stream that runs through our property after this rainfall. Enclosed is a photo of that stream just as water is beginning to flow on the surface. Also enclosed is a quart jar of water taken from that stream at the time the photo was taken.

This intermittent stream runs below or above ground depending on the amount of rainfall received in its drainage area. At times, it is like a raging mountain torrent, or, as seen here, it can have a low, but steady flow. Most of the time it appears dry, presumably because it runs underground.

This stream drains a portion of the area that has been cleared for the I-69 ROW and is a tributary to Indian Creek.

By the next morning, 21 July, this stream was not running on the surface except in a few small pools and rivulets. Most of the water flow had gone underground. Also included here is a photo showing the thick layer of sediment that was left on the stones in the stream bed after the water had sunk below the surface. It is assumed that much sediment was also carried down into the karst water system below ground.

The rising and sinking of the water in this stream is a common characteristic of this stream and others in this area,

I am assuming that the amount of sediment that is being loaded into streams that receive runoff from the I-69 ROW construction is having a detrimental impact on aquatic life, including amphibians. I can't imagine how a salamander could live in the mud that settled in the rocks of our stream bed due to this latest contamination event. In the past, I have found many salamanders under the rocks in this area. I will continue to look for these creatures in this stream bed, but a brief search yesterday turned up nothing.

Aquatic life in general can be seriously harmed by the loading of streams with sediment. Water tables can also be contaminated.

Based on ongoing problems with this project, I believe the question must be asked if it is realistic to believe that the I-69 construction in this very hilly, karstic area can be done in an environmentally safe manner. I believe it is time to take a break and reconsider all of the consequences of continuing with this project. Our environment and our citizens deserve no less.

It is time to ask if the construction of I-69 is being given a pass by regulatory agencies. If it is considered "too big to fail" by these agencies, the public needs to know that. As has been demonstrated in the financial sector,

the actual failure of "too big to fail" projects can be catastrophic. Please do something; it is a real mess out here.

Sincerely,

Thomas Tokarski



20 July 2013-- Heavy sedimentation of stream on private property next to I-69 ROW construction.



20 July 2013--water sample taken from above photo of stream at the same time as photo taken.



21 July 2013--mud precipitate left on the rocks of above stream after water had sunk below ground.



Thomas & Sandra Tokarski  
CARR  
PO Box 54  
Stanford, IN 47463  
[carr@bluemarble.net](mailto:carr@bluemarble.net)  
812-825-9555  
800-515-6936

TO: Monroe County Commissioners, Monroe County Plan Commission, Indiana Department of Environmental Management, Indiana Department of Natural Resources, Indiana Department of Transportation, U.S. Fish & Wildlife, Environmental Protection Agency, U.S. Corps of Engineers

RE: Sediment Pollution from I69 Construction, Southwestern Monroe County, Indiana

FROM: Patrick J. Munson  
6707 W. Rockeast Rd.  
Bloomington, IN 47403  
Tel.: (812) 824-7717  
Email: [munson@indiana.edu](mailto:munson@indiana.edu)

DATE: July 24, 2013

### **Background**

My wife (Cheryl Ann Munson) and I have resided at the above address in Indian Creek Twp. for 41 years. Our home is 2.5 miles south of the I69 ROW where it crosses Harmony Rd. All rainfall amounts are from a gauge in our yard.

The ROW of I69 Section 4 in southwestern Monroe Co. is about 8 miles long and traverses, west to east, the entirety of Indian Creek Twp. and then turns northeastward and crosses southeastern Van Buren Twp. and southwestern Perry Twp. before connecting to SR37.

Drainage in the relevant parts of southwestern Monroe Co. is into either west-flowing tributaries of Indian Creek or into east-flowing tributaries of Clear Creek. Many of the tributaries are unnamed, so to facilitate discussion I've here assigned informal designations to them.

*Victor Branch*, an east-flowing tributary of Clear Creek, crosses Victor Pike between Victor Oolitic Quarry and Milton Lane. Its north fork crosses Rockport Rd. between Fern Hills Club and Stillions Sawmill. Much of its headwaters are in the I69 ROW south of Koontz Rd. and east of Harmony Rd. (in northeastern Indian Creek Twp.).

*Goodes Cave Branch*, an east-flowing tributary of Clear Creek, crosses Victor Pike between Fluck Mill Rd. and Tramway Rd. (in northwestern Clear Creek Twp.) and crosses Rockport Rd. just south of the junction of Tramway Rd. and Rockport Rd. (in southeastern Van Buren Twp.). At normal flow much of the water in the stream originates from the spring at Goodes Cave (which is about one-half mile north of the I69 ROW).

*Leonard Spring Branch*, a southeast-flowing tributary of Clear Creek, crosses Victor Pike between Tramway Rd. and Dillman Rd. (in southwestern Perry Twp.). Its north fork crosses Bolin Lane within the I69 ROW and drains most or all of the I69-SR37 interchange area.

*Harp Spring Branch*, a west-flowing tributary of Indian Creek, runs parallel to and south of Graves Rd. and crosses Breeden Rd. just south of the Graves Rd.-Breeden Rd. intersection (northwestern Indian Creek Twp.). At normal flow most of its water issues from Harp Spring. The entirety of its surface drainage is south of the I69 ROW.

*Tokarski Branch*, a west-flowing tributary of Indian Creek, runs parallel to and south of the west end of Evans Rd. It crosses Burch Rd. between Evans Rd. and Tom Phillips Rd. (northwestern Indian Creek Twp.). Much of its headwaters are in the I69 ROW.

### **Chronology of Sedimentation Episodes**

*June 26, 2013*

During the early morning southwestern Monroe County received 2.0" of rain, and received another 1.2" in the afternoon and evening. Four days later (June 30) I observed that Harp Spring Branch at the bridge on Breeden Rd. was running high and *very* muddy (yellow-colored). It was quickly determined that all of the muddy water was issuing from Harp Spring. The owners of the spring (Mr. and Mrs. Jack Knapp, 8995 W. Graves Rd.) told me that the muddy discharge began abruptly the day after the rains of June 26, and also said that in the 40+ years that they had lived there they had never seen anything like this.

It is my understanding that dye-tracing has determined that much of the water from Harp Spring originates in large swallow-holes ("swallets") that lie immediately adjacent to the I69 ROW just west of Harmony Rd. (about 2 miles northeast of the spring). I examined two of these swallow-holes in following days and in both cases yellow mud that coated vegetation indicated that run-off from multiple acres of denuded, steeply sloping terrain in the I69 ROW had flowed directly into the swallow-holes.

*July 2, 2013*

About 5:30 pm southwestern Monroe Co. received 0.9" of rain, most of it occurring within a 10-15 minute period. By 8:30 pm Clear Creek at the bridge on Fluck Mill Rd. (northwestern Clear Creek Twp.) was running high and carrying a high concentration of yellow mud. It was quickly determined that 100% of the muddy water was entering Clear Creek from Goodes Cave Branch (which was high and *very* muddy). Much of the mud appeared to originate from where the branch crosses the I69 ROW south of Tramway Rd. However, the branch upstream from that point (i.e. where it flows under Rockport Rd. just south of the Tramway Rd.-Rockport Rd. intersection) was also high and very muddy (yellow). By the next morning the water in the branch had decreased in volume and had largely cleared of sediment, but bank-side vegetation was coated with yellow mud, and the surfaces of rocks in low-velocity pools were covered by as much as 1/16<sup>th</sup> inch of yellow sediment; these indicators were traced upstream to the large spring that issues from Goodes Cave.

Goodes Cave lies about 1/4<sup>th</sup> mile north of Koontz Rd. and 1/2 mile north of where the I69 ROW intersects the headwaters of the north fork of Victor Branch. Supposedly the source of much of the water in Goodes Cave Spring originates to the northwest of the cave in the area of May Rd. However I know of no large-scale land disturbances in that area and consequently it is reasonable to conclude that sediment-laden run-off is sinking into the bed of Victor Branch and then being carried northward or northeastward by one or more subterranean conduits to Goodes Cave, and from there down Goodes Cave Branch to Clear Creek.

On July 3 I also checked Harp Spring Branch at Breeden Rd. and Indian Creek downstream from the I69 crossing along Breeden Rd.; both were carrying high volumes of very muddy (yellow) water.

*July 23, 2013*

Between 2:30 and 3:30 pm southwestern Monroe Co. received 1.1" of rain, most of it occurring in 20 minutes. The following observations:

3:45 pm: The north fork of Victor Branch at Rockport Rd. was very muddy (yellow), but it was not running very high. The relatively low volume is interesting because there is an extensive headwater upstream from that point; I suspect that much of the run-off from the I69 ROW south of Koontz Rd. was

sinking into the stream bed at some point or points upstream from Rockport Rd. and from there, perhaps, flowing underground to Goodes Cave Spring (see above).

3:48 pm: Goodes Cave Branch at Rockport Rd. was running clear (but see below).

3:55 pm: Goodes Cave Branch at Victor Pike was high and very muddy (yellow), making a plume of mud into then clear Clear Creek. The absence of mud in Goodes Cave Branch at Rockport Rd. at 3:48 pm indicates that at this time 100% of the mud at the Victor Pike crossing was coming from I69 construction along Tramway Rd. and the east end of Lodge Rd.

4:00 pm: A surge of very muddy (yellow) water came down Clear Creek to the confluence of Clear Creek and Goodes Cave Branch.

4:03 pm: Leonard Springs Branch at Victor Pike (southwestern Perry Twp.) was high and very muddy (yellow). This was the source of the muddy surge in Clear Creek at 4:00 pm. The sources of the mud in Leonard Spring Branch were the I69 ROW construction across the main stem and along its north fork in the vicinity of Bolin Lane and the I69-SR37 interchange.

5:15 pm: Goodes Cave Branch at Rockport Rd. by this time was high and muddy (yellow), likely from water which by then was issuing from Goodes Cave.

7:20 pm: Indian Creek downstream from the I69 ROW along Breeden Rd. was high and very muddy (yellow), and the pond in front of the spring cave on M. Lisa Swopes' property was "yellowing" (this spring cave is about ½ mile south of the I69 ROW across Breeden Rd.).

7:26 pm: Tokarski Branch at Burch Rd. was high and very muddy (yellow).

### **Concluding Comments**

The entirety of the ROW of I69 Section 4 in Monroe Co. traverses very hilly terrain, with many hills having very steep slopes. Further, something like 90% of that terrain is karstic, with numerous sinkholes, springs, sinking streams and large swallow-holes in or near the ROW. The ROW, formerly largely covered by forests, pastures and hayfields, has now been denuded (including the removal of most tree roots). INDOT's contractors have installed or constructed various devices intended to mitigate erosion and sediment run-off. Given what is documented above, as a result of rainfall totals in several cases of only about one inch, these efforts have been far from adequate; they have in fact failed dramatically.

Some appreciation of the magnitude of the problem can be seen by the following calculations. There are about eight miles of I69 ROW in southwestern Monroe Co. Estimating an average width of 400 feet for the ROW this covers 388 acres. A 1.0" rain, with 50% run-off (probably a very conservative estimate under the circumstances), results in 700,000 cubic feet (about 5.2 million gallons) of heavily sediment-laden water flooding into Indian Creek and Clear Creek via their surface and subsurface tributaries.

Rainfalls of 1.0" or greater are not abnormal in this area—they are in fact normal and common.

ATTACHMENT B

IDEM Violation Letter, July, 2, 2013

IDEM Compliance Letter, September 4, 2013



## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

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Michael R. Pence  
Governor

Thomas W. Easterly  
Commissioner

September 4, 2013

VIA CERTIFIED MAIL HAND DELIVERY

Ms. Laura Hilden  
Indiana Department of Transportation  
100 N Senate Avenue, Room N642  
Indianapolis, IN 46204

Dear Ms. Hilden:

Re: Inspection Summary  
Project: I-69 Section 4, Segment 5  
IDEM No.: 2011-508-28-JWR-A  
County: Greene and Monroe

In correspondence dated July 2, 2013, the Indiana Department of Environmental Management (IDEM) notified you that the I-69 Section 4, Segment 5 was in violation of Section 401 Water Quality Certification No. 2011-508-28-JWR-A, dated August 6, 2012. Specifically, the Mitchell Branch (S4-156) temporary crossing was not constructed as proposed and the riprap discharged through the 3-sided structure over the tributary to Mitchell Branch (S4-401) was not installed as proposed. IDEM has subsequently reviewed your correspondence dated August 1, 2013, outlining the steps you were going to take to bring the site in compliance and the timeline for implementation of the compliance measures.

On August 22, 2013, an IDEM conducted an inspection of I-69 Section 4, Segment 5 to verify that the violations were properly addressed. The site inspection revealed that the temporary crossing was constructed as proposed and the riprap was sumped 3-inches through the center of the structure as proposed in your correspondence dated August 1, 2013. IDEM considers the violations identified in the in the July 2, 2013, resolved.

If you have any questions about this letter or do not have access to the Internet, contact Jason Randolph, Project Manager, of my staff at 317-233-0467 or you may contact the Office of Water Quality through the Indiana Department of Environmental Management Helpline (1-800-451-6027).

Sincerely,

Mary E. Hollingsworth, Branch Chief  
Surface Water, Operations & Enforcement Branch  
Office of Water Quality

cc: Wendy Melgin, USEPA-Region 5 (Mail Code WW16J)  
Michelle Allen, FHWA-Indiana  
Elliot Sturgeon, INDOT-I-69 Operations Manager



A State that Works



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July 2, 2013

**VIA CERTIFIED MAIL** HAND DELIVERY

Ms. Laura Hilden  
Indiana Department of Transportation  
100 N Senate Avenue, Room N642  
Indianapolis, IN 46204

Dear Ms. Hilden:

Re: Inspection Summary/Violation Letter  
Project: I-69 Section 4 Segments 6 and 7  
IDEM No.: 2011-508-28-JWR-A  
County: Greene and Monroe

On June 17, 2013, a representative of the Indiana Department of Environmental Management (IDEM), Office of Water Quality, conducted an inspection of I-69 Section 4 Segments 5, 6 and 7. This inspection was conducted pursuant to Indiana Code (IC) 13-14-2-2. The inspection revealed violations of the Section 401 Water Quality Certification issued for this project on August 6, 2012, and violations of the Section 401 Water Quality Certification Modification dated December 11, 2012.

During the inspection of Segments 6 and 7, the IDEM representative observed and documented that Gohmann Asphalt and Construction, acting upon your behalf, discharged fill material into waters of the state to construct several stream crossings that did not meet the requirements as specified in the 401 Water Quality Certification. On December 11, 2012, IDEM issued a modification to the Section 401 Water Quality Certification dated August 6, 2012 for the construction of temporary crossings in Segments 6 and 7. Based on the modification and the site inspection conducted June 17, 2013, IDEM found the following violations:

- Stream S4-292- Approved for a 60-inch culvert with 1 feet of cover. A 76-inch culvert was installed with 1 foot of cover.
- Stream S4-282(modified May 13, 2013) - Approved for two 54-inch culverts and one 72-inch culvert with 0.5 feet of cover. At the outlet end of the crossing, the pipes measure 60-inches, 54-inches, and 72-inches and are

elevated above the stream bottom causing fish passage issues. One of the culverts is two different sized culverts pieced together to form one culvert.

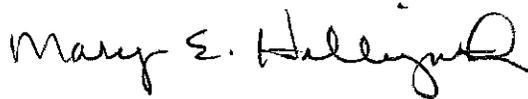
- Stream S4-245 - Approved for three 60-inch structures. The pipe sizes are installed as approved however, they are not spaced 2 feet apart as approved, the outlet of the pipes are directed at the stream bank, and a filter berm is constructed on top of the crossing increasing the overall height of the crossing.
- Stream S4-189 - Approved for four 60-inch culvert pipes with 1.5 foot of cover. The structures installed measure 48-inches, 60-inches, 66-inches, and 72-inches at the inlet. The outlet of one structure measures 110-inches and discharges directly along the toe of slope of the stream bank. This will cause significant erosion issues during the life of the temporary crossing. A rock filter berm is constructed on top of the crossing increasing the overall height of the crossing.
- Several other stream crossings were noted as having rock filter berms constructed on top of temporary crossings.

The use of rock filter berms to trap sediment on temporary crossings is not an authorized activity within the stream. Sediment tracking onto a crossing should be minimized by utilizing stable approaches to the crossing and incorporating a rock berm with filter stone parallel to the stream to trap sediment and to divert run-off away from the crossing. The crossings are to be designed to convey stream flow over the middle of the structure. Sediment that is tracked onto the crossing has a high potential to wash through the riprap voids and discharge into a water of the state. In addition, using a filter berm on the top of the crossing as a sediment trapping measure is not effective due to vertical movement of sediment through the riprap and failure of the filter berm when the structure is overtopped during storm events; which results in discharging the filter berm material and any sediments into waters of the state.

You must respond within thirty (30) days of the date of this letter with a corrective action plan and prospective schedule for implementation. Failure to respond in a timely and sufficient manner to this Violation Letter may result in further action, including a referral to IDEM's Office of Water Quality Enforcement Section.

If you have any questions about this letter or do not have access to the Internet, contact Jason Randolph, Project Manager, of my staff at 317-233-0467 or you may contact the Office of Water Quality through the Indiana Department of Environmental Management Helpline (1-800-451-6027).

Sincerely,



Mary E. Hollingsworth, Branch Chief  
Surface Water, Operations & Enforcement Branch  
Office of Water Quality

cc: Wendy Melgin, USEPA-Region 5 (Mail Code WW16J)  
Elliot Sturgeon, INDOT-I-69 Operations Manager  
Randy Braun, Section Chief Wetlands and Storm Water  
Ronnie Boehm, I-69 Storm Water Compliance Assistance  
Steve Sperry, INDOT-OES  
Jeremy Kieffner, Bernardin Lochmueller and Associates



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September 4, 2013

**VIA CERTIFIED MAIL HAND DELIVERY**

Ms. Laura Hilden  
Indiana Department of Transportation  
100 N Senate Avenue, Room N642  
Indianapolis, IN 46204

Dear Ms. Hilden:

Re: Inspection Summary  
Project: I-69 Section 4, Segments 6 & 7  
IDEM No.: 2011-508-28-JWR-A  
County: Greene and Monroe

In correspondence dated July 2, 2013, the Indiana Department of Environmental Management (IDEM) notified you that the I-69 Section 4, Segments 6 & 7 were in violation of Section 401 Water Quality Certification No. 2011-508-28-JWR-A, dated August 6, 2012. Specifically, the 4 Indian Creek temporary crossings were not constructed as proposed. IDEM has subsequently reviewed your correspondence dated August 1, 2013, outlining the steps you were going to take to bring the site in compliance and the timeline for implementation of the compliance measures.

On August 22, 2013, an IDEM representative conducted an inspection of I-69 Section 4, Segment 6 & 7 to verify that the violations were properly addressed. The site inspection revealed that the temporary crossings were constructed as proposed in your correspondence dated August 1, 2013. IDEM considers the violations identified in the correspondence dated July 2, 2013, resolved.

If you have any questions about this letter or do not have access to the Internet, contact Jason Randolph, Project Manager, of my staff at 317-233-0467 or you may contact the Office of Water Quality through the Indiana Department of Environmental Management Helpline (1-800-451-6027).

Sincerely,

Mary E. Hollingsworth, Branch Chief  
Surface Water, Operations & Enforcement Branch  
Office of Water Quality

cc: Wendy Melgin, USEPA-Region 5 (Mail Code WW16J)  
Michelle Allen, FHWA-Indiana



ATTACHMENT C

Erosion and sediment control reports from June 24<sup>th</sup> thru July 22<sup>nd</sup> for IR-33739

Force Account Billing Summaries for weeks of June 29<sup>th</sup>, July 6<sup>th</sup> and July 13<sup>th</sup>

Off-Site Sediment Noted beginning 6/24

Sta.:

- 1) 1049+00
- 2) 1101+50
- 3) 1107+00
- 4) 1250+00 (Landowner does not believe there is an issue, case to be forwarded to IDEM)
- 5) 1228+00
- 6) 1225+00
- 7) 1240+00
- 8) 163+00\*
- 9) 173+00\*
- 10) 176+00\*
- 11) 995+00

\*These locations have been cleaned satisfactorily at one point after the 6/24/13 Rain Events, however, these locations are currently still being quantified after the recent rain event on 7/23/13. There may be Off-Site Sediment at these locations again.

All other locations are currently slated for sediment removal beginning 7/25/13. Petitt Environmental has started one crew on 7/25/13 for Off Site Removal as well as another crew beginning as early as 7/29/13.

Off-Site sediment removal is currently pending and none of the locations above are officially "clean" as of 7/26/13



**BERNARDIN  
LOCHMUELLER &  
ASSOCIATES, INC.**

012723/13  
0126-27/13  
6200 Vogel Road  
Evansville, IN 47715  
Phone: (812) 479-6200  
WEEK  
RST PLAN  
EVENT.

**Stormwater Construction Site Inspection Report**

General Information							
<b>Project Name</b>	I-69	<b>Section</b>	4	<b>Segment/Package</b>	6 & 7	<b>Contract</b>	IR-33739
<b>Station From</b>	909+00 Line A 140+00 Line C			<b>Station To</b>	1255+00 Line A 210+00 Line C		
<b>Date of Inspection</b>	June 24-25, 2013 June 26, 2013 Post-Storm June 27, 2013 Post-Storm			<b>Time</b>	9:00am ET		
<b>Inspector's Name(s)</b>				Danika Fleck, BLA, Inc.			
<b>Describe Present Phase of the Construction</b>				Erosion Control Measure Installation, Pipe Installation, Karst Treatments, Soil Stabilization			
<b>Type of Inspection:</b> <input checked="" type="checkbox"/> Daily <input type="checkbox"/> During storm event <input checked="" type="checkbox"/> Post-storm event <input type="checkbox"/> Other:							
Weather Information							
<b>Has there been a storm event since the last inspection?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
<b>If yes, provide:</b>							
Storm Date:		Storm Duration (hrs):		Approximate Amount of Precipitation:			
06/26/13 (early morning and afternoon)		Extended		2.0 and 7/10 inches (INDOT Field Office) 2.5 and 1 1/4 inches (Gohmann Field Office)			
<b>Weather at time of this inspection:</b>							
<input type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Rain	<input type="checkbox"/> Sleet	<input type="checkbox"/> Fog	<input type="checkbox"/> Snowing	<input type="checkbox"/> High Winds	
<input checked="" type="checkbox"/> Other: Partly Cloudy		<b>Temperature:</b> 85-90°F					
<b>Have any discharges occurred since the last inspection?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
<b>If yes, describe:</b> Several areas throughout the project are described in the table							
<b>Are there any discharges at the time of inspection?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
<b>If yes, describe:</b> Several areas throughout the project are described in the table							

**Non-Compliance/General Comments**

Describe any incidents of non-compliance or general comments not described above:

Portions of several Indian Creek temporary crossings have suffered damage due to increased flow within the stream due to rainfall-runoff events. Rock/stone/debris was discharged into Indian Creek at the locations of damage to the temporary crossings. May want to consider different materials (stone/rock size, etc.) at the temporary crossings to reduce the potential for future/additional damages to the temporary crossings. Any and all changes/modifications (that are not in accordance with the approved plans and specifications) to the temporary crossings require approval from INDOT OES, Hydraulics, and IDEM, PRIOR to implementation.

Many of the sediment traps that are installed are not constructed according to standards and specifications (i.e. the traps do not dewater, the side slopes are constructed steeper than specified, the length to width ratio of the trap pool areas is not in accordance with specifications, etc.). Please evaluate all sediment traps and modify/reconstruct the traps in accordance with standards and specifications. Refer to the Indiana Storm Water Quality Manual for construction details, standards, and specifications etc.

Recommend that sediment traps (#9, #13, #34, #28, #30, #24, #25, #26, #27, #20, #21, #23 as indicated on the SWPPP) be installed prior to any future disturbances in these areas.

All construction entrances should be continually monitored for clean-up of sediment and tracking onto public roadways. All stream crossings should be continually cleaned during all construction activities.

The area behind the checks and traps should not be constructed lower than the rock areas. To get the capacity needed in these areas, the areas behind the traps should be expanded by increasing the length and/or the width.

Many of the diversion channels and ditches have checks installed, but the checks are not installed from toe to crest; therefore, these channels are not stabilized. Need to stabilize all diversion channels and ditches appropriately during construction to prevent erosion.

All areas that are left undisturbed for more than 7 days should be temporarily seeded following INDOT standard specifications for temporary seeding.

Describe corrective actions implemented since the last inspection:

995+00	995+00	Right	May consider berm on top of pipe at outlet end be built larger to prevent sediment migrating to stream. Maintenance of filter cloth on bank of stream.- <b>COMPLETE</b>
1000+00	1000+00	Right	Sediment trap filled in with filter stone; no capacity.- <b>COMPLETE</b>
1072+50	1072+50	Left	Sediment has been pushed up to the same height as rock filter berm at the karst. Vehicles have run over the berm in this area. Rock filter berm maintenance.- <b>COMPLETE</b>
1099+00	1099+00	Right	Temporary crossing maintenance. Rock observed in stream.- <b>COMPLETE</b>
1100+00	1100+00	Center	Rock observed in jurisdictional stream.- <b>COMPLETE</b>
1158+00	1158+00	Left	Construction entrance maintenance north and south on Burch Road. Need to remove sediment and add rock.- <b>COMPLETE</b>
163+00	163+00	Right	Rock filter berm east and west of cuivert 1/3 full of sediment; needs removal. Sediment has fallen off haul road down into riprap of outlet of Jurisdictional Stream. Appropriate and effective sediment control measures should be evaluated at the crossing to prevent sediment going potentially into stream.- <b>COMPLETE</b>
156+00	156+00	Right	Check dam 1/3 full of sediment; needs removal.- <b>COMPLETE</b>
155+00	155+00	Right	Debris/sediment deposited on filter stone of sediment trap and at rock berm adjacent to trap on west side of wingwall. Sediment deposited at east side of wingwall at rock berm.- <b>COMPLETE</b>
154+50	154+50	Left	Sediment/water has washed out check dam at wingwall. Sediment deposited onto riprap of Jurisdictional Stream.- <b>COMPLETE</b>
153+00	153+00	Left	Sediment overtopped check dam at end of ditch.- <b>COMPLETE</b>
143+00	143+00	Right	Filter stone not installed at riprap at outlet end of pipe.- <b>COMPLETE</b>

Part A: Erosion and Sediment Control BMP's Inspected					
BMP Type	Approximate Station		Survey Line: (e.g. Left, Right, Center)	BMP Maintenance or Corrective Action Needed (Include image file name, # of measures)	Noted on Previous Inspection (Y/N)
	From	To			
<b>SEGMENT 6</b>					
7	910+00	913+50	Right	Sediment deposited at silt fence and check dams.	N
11	923+00	923+00	Right	Sediment deposited on filter stone of sediment trap.	N
11	929+00	932+50	Right	Slopes of Sediment Trap #3 not stabilized. (See Photo)	Y
12	933+00	933+00	Left	Slopes of Sediment Basin #4 not stabilized.	Y
12	934+00	934+00	Left	Slopes of Sediment Basin #5 not stabilized.	Y
24	934+00	934+00	Left	Partial failure of temporary crossing at Indian Creek. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream. (See Photo)	N
22	936+00	936+00	Center	Concrete washout failure. Part of liner fell into pit. (See Photo)	N

14, 15	936+00	936+00	Right/Left/Center	Sediment is discharged onto Carmichael Road (open to public use) and into the roadside ditch due to inadequate-ineffective erosion and sediment control measures to coincide with the earth disturbance activity that is occurring at this location. (See Photo)	Y
1	966+00	971+00	Left and Right	Check dams installed within diversion ditch but are not toe to crest; therefore the diversion channels are not stabilized.	Y
11	973+50	973+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	976+50	976+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
14	980+50	980+50	Right	Rock filter berm is not lower than top of silt fence and not flush with silt fence.	Y
1	980+00	985+25	Left	Check dams over 1/3 full of sediment and partial failure; maintenance required.	N
1	980+00	985+25	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
1	982+50	985+00	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
11	985+00	985+00	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	992+50	992+50	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	994+50	994+50	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
15	994+75	994+75	Right	Wood chip berm ran over by utility installation.	Y
15	995+00	995+00	Right	Rock filter berm overtopped by sediment north of pipe. Failure of woodchip berm (connected to rock berm) south of pipe. Woodchips and rock observed on stream bank. (See Photo)	N
7	999+50	999+50	Center	Partial failure of check dam in lost stream. Sediment deposited on filter stone and some rock/sediment washed off check dam towards jurisdictional stream.	N
11	1000+00	1000+00	Right	Sediment traps on all 4 quadrants of temporary crossing not constructed to specifications. The length to width ratio is not 2:1.	Y
24	1000+00	1000+00	Right	Water/sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent water/sediment from going onto crossing and potentially into stream.	Y
24	1000+00	1000+00	Center	Sediment trap failure at temporary crossing.	N
15	1003+00	1003+00	Left	Two rock berms tie into wood chip berm, high failure potential. Install hook at end of rock berm to act as a sediment trap or continue rock berm. (See Photo)	Y
<b>SEGMENT 7</b>					
15	1039+00	1039+00	Left	Filter berm failure at jurisdictional stream. Sediment and rock observed in stream. (See Photo)	N
27	1039+50	1039+50	Left	Pipe-around failure. Stream flowing around pipe-around dam. (See Photo)	N
20	1046+00	1046+00	Right	Prior to rain event, pipe-around installed 6" above bottom of pipe. Reconfigure pipe-around to be flush with bottom of pipe. After rain event, pipe-around failure. Pipe could not be located in stream; may be off-site.	N
7	1049+00	1049+00	Right	Failure of check dams located at constructed jurisdictional ditch. Rock and sediment observed in stream. (See Photo)	N
7	1060+00	1065+00	Left	Check dams installed within ditch but not toe to crest;	Y

				therefore the ditch is not stabilized. Slopes of ditch not stabilized. (See Photo)	
7	1060+00	1065+00	Left	Check dams 1/3 full of sediment; needs removal.	N
7	1060+00	1065+00	Right	Slopes of ditch not stabilized.	Y
7	1068+00	1068+00	Left	Riprap showing on face of check dam; repair to INDOT specifications.	Y
15	1068+00	1070+00	Left	Wood chips located off-site.	Y
11	1070+75	1070+75	Left	Slopes of Sediment Trap #11 not stabilized.	Y
11	1070+75	1070+75	Left	Sediment overtopped sediment trap from rain event; maintenance required.	N
15	1070+75	1070+75	Left	Filter stone washed off of berm along stream.	N
24	1071+00	1071+00	Left	Partial failure of temporary crossing at Indian Creek. Inlet side of pipes floated up. Rock observed in creek. (See Photo)	N
15	1072+00	1072+00	Left	End of wood chip berm at lower elevation than wier of check dam; evaluate for sediment containment.	Y
26	1072+00	1072+00	Left	Past silt fence failures at Karst feature which drains into ground and leads to Indian Creek (Jurisdictional Stream). Additional silt fence installed is not entrenched according to specifications, which is subject to failure. Therefore, an alternative measure needs to be installed in this area. (See Photo) <b>The filter berm has not been installed for this area which is assessed at \$200/day per 100 linear foot.</b>	Y
24	1079+50	1079+50	Right	The crossing appears to be installed below the ordinary high water mark; re-evaluate.	Y
24	1080+50	1080+50	Right	Stream washed over temporary crossing. Debris deposited on crossing; maintenance required.	N
15	1080+50	1080+50	Left	Sediment previously deposited at filter berm at 1/3 full. After rain event, filter berm partially failed with rock and sediment in stream. (See Photo)	N
27	1100+00	1100+00	Left	Prior to rain event, three pipe-arounds not installed correctly. Two pipes backfilled with dirt. Pipes installed uphill; stream will not flow. Slit cut in plastic lined ditch at pipe-around. (See Photo) Three pipe-arounds failed after rain event. Need to reconstruct. (See Photo)	N
15	1100+00	1100+00	Right	Additional filter stone needs to be installed on berm at outlet end of pipe and filter berm south of stream.	N
11, 7	1141+50	1141+50	Center	Sediment trap failure at temporary crossing. Rock/sediment migrating to jurisdictional stream. Sediment deposited on check dam east of temporary crossing; maintenance required.	N
11	1122+00	1122+00	Left	Sediment overtopped sediment trap from rain event; maintenance required.	N
24	1122+00	1122+50	Left	Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y
24	1122+00	1122+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in stream channel. (See Photo)	N
11	1122+50	1122+50	Left	Sediment overtopped sediment trap from rain event; maintenance required.	N
14	1124+00	1124+00	Center	Silt fence failure at stream; consider installing alternative erosion control measure.	N
28	1123+00	1123+00	Center	Wood chips located within the Jurisdictional Stream.	Y
24	1140+00	1140+00	Center	Sediment trap maintenance along sides of haul road at the temporary crossing. Water cannot drain into trap.	Y
25	1154+50	1154+50	Center	Equipment ruts on slopes north and south of stream not stabilized.	Y

27	1239+50	1239+50	Center	Pipe-around flooded. Maintenance required to maintain flow into pipe-around. (See Photo)	N
15	1240+00	1240+00	Left	Sediment deposited at filter berm; over 1/3 full.	N
<b>LINE C</b>					
1	206+00	209+00	Left	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	205+00	208+00	Center	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	206+00	208+00	Right	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
11	206+00	206+00	Left	Sediment trap overtopped, sediment deposited on filter stone, sediment deposited into trap. Maintenance required.	N
11	206+00	206+00	Left	Sediment Trap not constructed to specifications. Pit sloping away from rock dam and will not drain within the 48-72 hour storm event time period.	Y
11	202+50	202+50	Left	Sediment Trap increased, but still needs more capacity. The length to width ratio is not 2:1.	Y
14	202+00	202+00	Right	Silt fence on hill slope across ROW needs an outlet to prevent failure.	Y
11	202+00	202+00	Center	Temporary crossing sediment traps upslope 2 quadrants not constructed to specifications. The length to width ratio is not 2:1.	Y
11	199+00	200+00	Left	Sediment trap slopes not stabilized.	Y
7	199+00	199+00	Center	Check dam east of Carter Road overtopped. May consider larger check dam or another erosion control measure.	Y
14, 15	199+00	199+00	Center	The area adjacent along the east side of Carter Road is disturbed and not stabilized to prevent sediment on the roadway.	Y
14	197+00	197+00	Center	Dirt stock piled adjacent to silt fence. Silt fence knocked down from dirt clods.	N
1, 11	190+00	198+50	Right	Diversion channel and sediment trap slopes not stabilized.	Y
24	189+50	189+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in creek. (See Photo)	N
24	189+50	189+50	Left	Maintain berms on either side of Indian Creek crossing. Maintain sediment deposition on crossing.	Y
24	189+50	189+50	Left	Rock (2s) deposited into Indian Creek from removal of rock berms along the creek. (See Photo)	Y
11	189+50	189+50	Right	Slopes of Sediment Trap not stabilized.	Y
7	186+00	186+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
7	183+50	183+50	Right	Check dam capacity does not seem adequate for this area of drainage based on height.	Y
11	178+00	178+00	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
1	175+00	177+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
24	174+00	174+00	Right	Sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y
24	174+00	174+00	Right	Debris observed at inlet of concrete pipe of temporary crossing.	N
11	174+00	174+00	Right	Slopes of Sediment Trap #35 not stabilized.	Y
11	174+00	174+00	Right	Failure of sediment trap right of temporary crossing. Sediment and rock migrating toward jurisdictional stream.	N
11	173+50	173+50	Left	Sediment trap overtopped. Maintenance required.	N

11	173+50	173+50	Right	Slopes of Sediment Trap #33 not stabilized.	Y
11	173+50	173+50	Right	Failure of slope of sediment trap #33. Sediment and rock off-site. Failure of dam of sediment trap. Sediment and rock observed in jurisdictional stream. (See Photo)	N
1	167+50	169+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	164+00	165+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
24	163+50	163+50	Right	Water standing at haul road crossing over pipe. Sediment laden water washed over berm down to outlet end of pipe.	N
1	161+00	163+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	157+00	160+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
15, 11	154+00	154+00	Right	Filter berm failures. Sediment trap failure. Sediment and rock observed in stream.	N
7	154+00	154+00	Left	Check dam failure east of inlet of pipe. Bank failure held by filter cloth. Sediment deposited onto riprap of jurisdictional ditch.	N
14	153+00	154+00	Left	Silt fence failure at jurisdictional ditch. (See Photo)	N
1	151+00	154+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	150+00	154+00	Left	Check dams installed within ditch, but not toe to crest; therefore, ditch is not stabilized.	Y
1	150+00	154+00	Left	Check dam failures throughout ditch.	N
8	146+00	146+00	Right	Check dam not properly installed, overflow too high	Y
8	145+00	145+00	Right	Check dam not properly installed, overflow too high	Y
1	145+00	148+00	Right	Check dams not installed within ditch; therefore, ditch is not stabilized.	Y
20	144+00	144+00	Right	Water undermining pipe at outlet end. Sediment deposited onto riprap of Jurisdictional Stream. (See Photo)	N
7	143+00	143+00	Left	Check dam failure east of inlet end of pipe. (See Photo)	N
20	140+00	140+00	Left	Filter cloth on stream bank washed onto riprap.	N
28	140+00	140+00	Left	Rip rap in new stream channel does not match up to old stream channel. Water flowing under filter cloth. (See Photo)	Y
1	140+00	142+50	Right	Check dams not installed within channel; therefore, diversion channel is not stabilized.	Y

**Table of Types of Erosion and Sediment Control BMP's or Issues**

1	Diversion Interceptor	8	Check Dam, Traversable	15	Filter Berm	22	Concrete Washout
2	Temporary Seeding	9	Slope Drain	16	Filter Sock	23	Secondary Spill Containment
3	Permanent Sod or Seed	10	Splash Pad	17	Turbidity Curtain	24	Temporary Stream Crossing
4	Mulch (hydraulic or bonded fiber mulch)	11	Sediment Trap	18	Surface Roughening	25	Other:
5	Straw Mulch (blown/laid/crimped)	12	Sediment Basin	19	Vegetative Filter Strip	26	Other: Karst Features
6	Erosion Control Blankets	13	Retention Pond	20	Inlet/Outlet Protection	27	Other: Pipe arounds
7	Check Dam	14	Silt Fence	21	Construction entrance/exit	28	Other:

SEGMENT 6



Photo 1-Erosion at sediment trap at Sta. 929+00-932+50

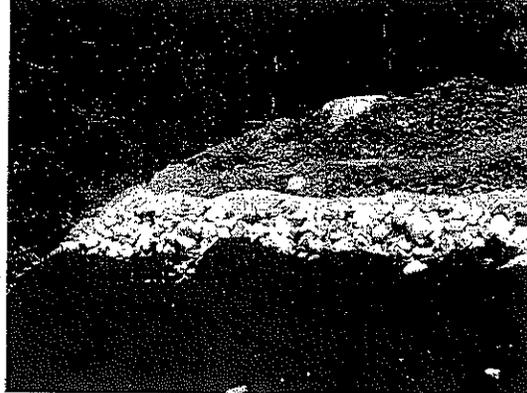


Photo 2-Wood chip berm ties into 2 rock berms at Sta. 1003+00

SEGMENT 7

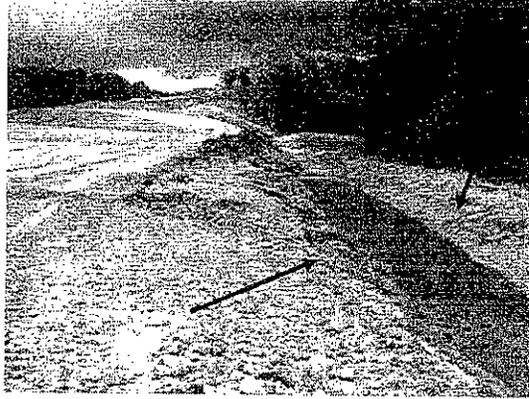


Photo 1-Slopes of sediment trap not stabilized at Sta. 1070+75

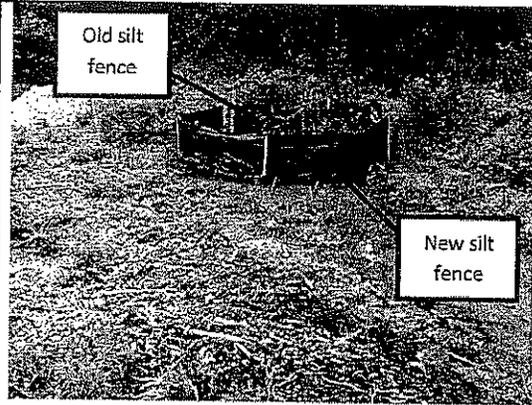


Photo 2-Silt fence failure fixed with same measure just larger area at Sta. 1072+00



Photo 3-Pipe-around back-filled with dirt at Sta. 1100+00



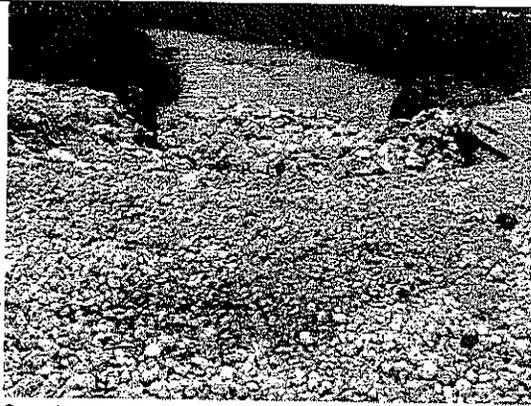
Photo 3-Pipe-around back-filled with dirt at Sta. 1100+00

LINE C

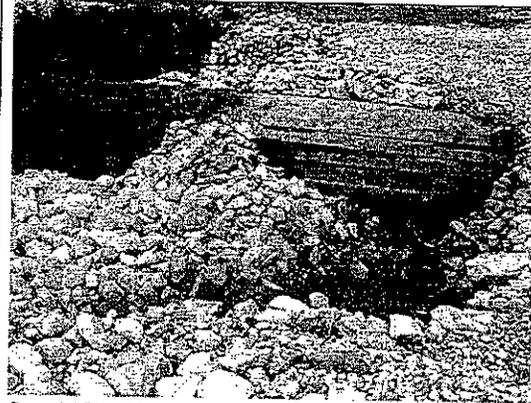


Photo 1-Small rock deposited into Indian Creek at Sta. 189+50 prior to rain event

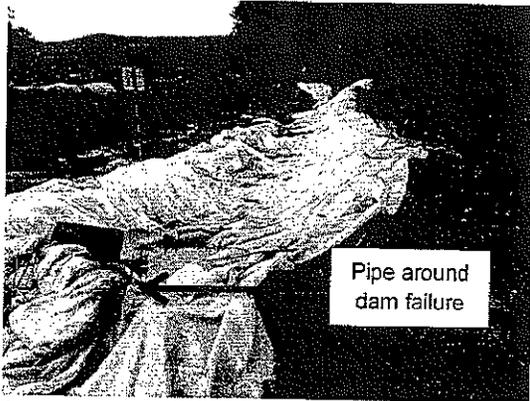
## Rain Event 06/26/13 (Early Morning)



Sta. 1122+00 - Indian Creek crossing partially washed out (south of Breeden Rd)



Sta. 1122+00 - Indian Creek crossing partially washed out (south of Breeden Rd)



Sta. 1100+00 - Plastic lined jurisdictional ditch and pipe around failure



Sta. 1071+00 - Indian Creek crossing partially washed out



Sta. 1071+00 - Pipes floated up at Indian Creek crossing (Note: Two pipes had been removed at the time of inspection)

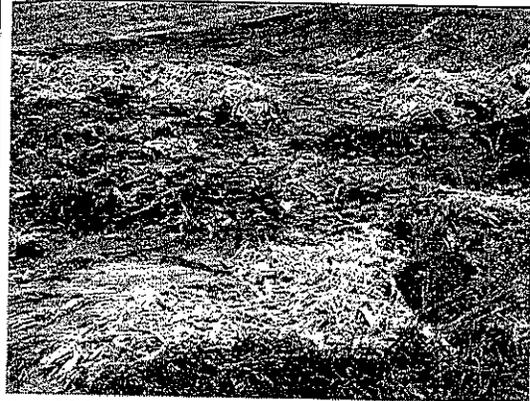


Sta. 995+00 - Wood chip filter berm failure at Jurisdictional Stream. Sediment /woodchip release into stream

Rain Event 06/26/13 (Early Morning)



Sta. 995+00 – Wood chip filter berm failure at Jurisdictional Stream. Sediment /woodchip release into stream



Sta. 936+00 – Wood chip berm failed at Carmichael Road. Sediment deposited on roadway



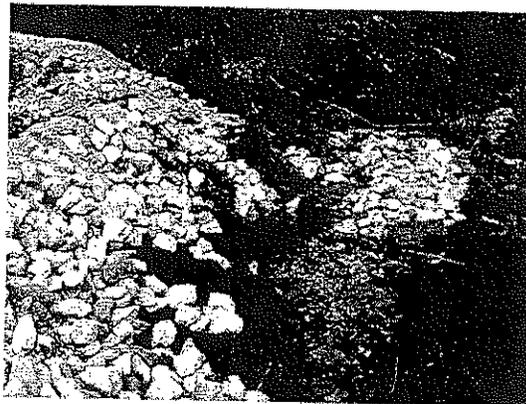
Sta. 936+00 – Sediment deposited in roadside ditch at Carmichael Road. Sediment was cleaned off the road prior to inspection.



Sta. 936+00 – Concrete washout failure at Carmichael Road

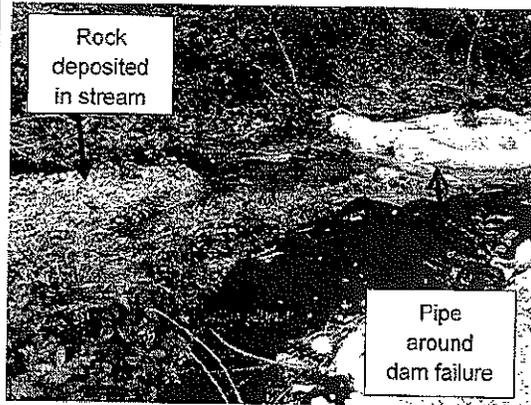


Sta. 934+00 – Indian Creek crossing partially washed out



Sta. 1039+50 – Rock filter berm failure at Jurisdictional Stream. Sediment/rock deposited in stream

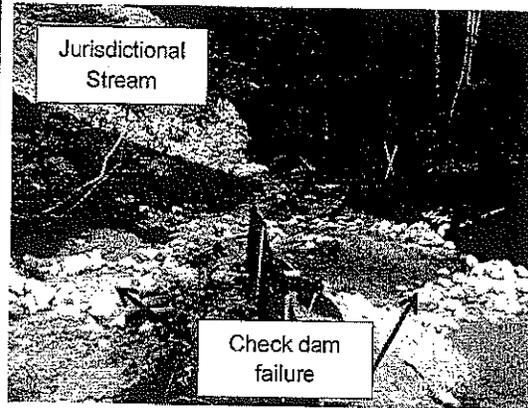
## Rain Event 06/26/13 (Early Morning)



Sta. 1039+50 – Pipe around failure. Note rock deposition in stream from rock berm failure

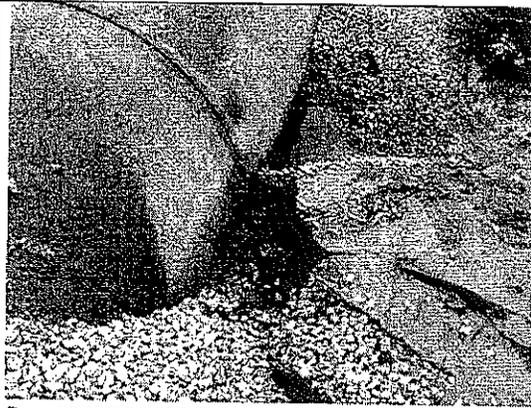


Sta. 1080+50 – Sediment overtopped rock filter berm at Jurisdictional Stream. Rock and sediment deposited into stream



Sta. 1049+00 – Check dam failure at Jurisdictional Stream. Sediment and rock deposited in stream

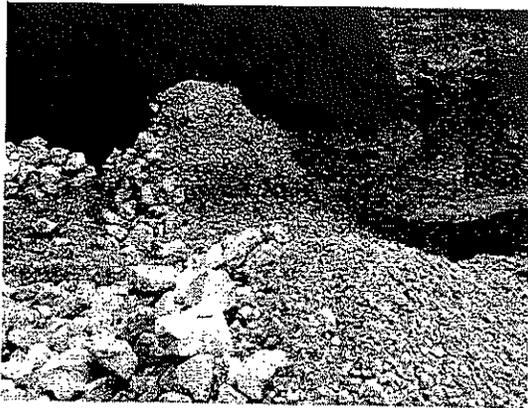
## Rain Event 06/26/13 (Afternoon)



Sta. 144+00 – Water undermining pipe at outlet end. Sediment deposited onto riprap of Jurisdictional Stream.



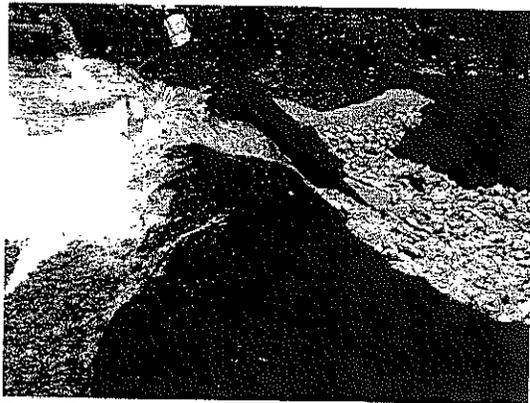
Sta. 144+00 – Sediment deposited onto riprap of Jurisdictional Stream.



Sta. 143+00 – Check dam failure



Sta. 153+00-154+00 – Silt fence and check dam failures.

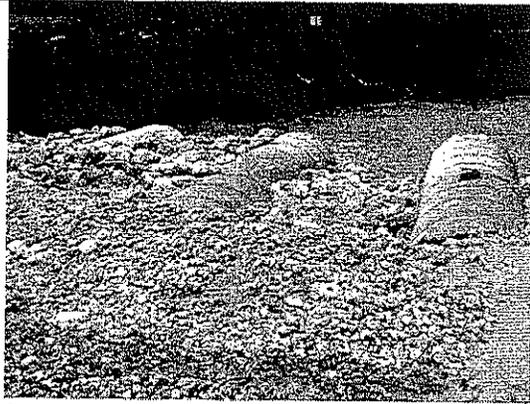


Sta. 163+50 – Water washing over crossing at outlet end of pipe.



Sta. 173+50 – Failure of slope of sediment trap and dam

**Rain Event 06/26/13 (Afternoon)**



Sta. 189+50 – Partial failure of Indian Creek crossing



Sta. 1239+50 – Pipe-around flooded



**BERNARDIN  
LOCHMUELLER &  
ASSOCIATES, INC.**

6200 Vogel Road  
Evansville, IN 47715  
Phone: (812) 479-6200

7/1-2/13  
Weekly

### Stormwater Construction Site Inspection Report

General Information							
Project Name	I-69	Section	4	Segment/Package	6 & 7	Contract	IR-33739
Station From	909+00 Line A 140+00 Line C			Station To	1255+00 Line A 210+00 Line C		
Date of Inspection	July 1-2, 2013			Time	9:00am ET		
Inspector's Name(s)	Danika Fleck, BLA, Inc.						
Describe Present Phase of the Construction	Erosion Control Measure Installation, Pipe Installation, Karst Treatments, Soil Stabilization						
Type of Inspection:	<input checked="" type="checkbox"/> Daily	<input type="checkbox"/> During storm event	<input type="checkbox"/> Post-storm event	Other:			
Weather Information							
Has there been a storm event since the last inspection?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
If yes, provide:	Storm Date: Storm Duration (hrs): Approximate Amount of Precipitation:						
Weather at time of this inspection:							
<input type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Rain	<input type="checkbox"/> Sleet	<input type="checkbox"/> Fog	<input type="checkbox"/> Snowing	<input type="checkbox"/> High Winds	
<input checked="" type="checkbox"/> Other: Partly Cloudy		Temperature: 75-80°F					
Have any discharges occurred since the last inspection?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
If yes, describe:	Several areas throughout the project are described in the table						
Are there any discharges at the time of inspection?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
If yes, describe:	Several areas throughout the project are described in the table						

### Non-Compliance/General Comments

Describe any incidents of non-compliance or general comments not described above:

Portions of several Indian Creek temporary crossings have suffered damage due to increased flow within the stream due to rainfall-runoff events. Rock/stone/debris was discharged into Indian Creek at the locations of damage to the temporary crossings. May want to consider different materials (stone/rock size, etc.) at the temporary crossings to reduce the potential for future/additional damages to the temporary crossings. Any and all changes/modifications (that are not in accordance with the approved plans and specifications) to the temporary crossings require approval from INDOT OES, Hydraulics, and IDEM, PRIOR to implementation.

Many of the sediment traps that are installed are not constructed according to standards and specifications (i.e. the traps do not dewater, the side slopes are constructed steeper than specified, the length to width ratio of the trap pool areas is not in accordance with specifications, etc.). Please evaluate all sediment traps and modify/reconstruct the traps in accordance with standards and specifications. Refer to the Indiana Storm Water Quality Manual for construction details, standards, and specifications etc.

Recommend that sediment traps (#9, #13, #34, #28, #30, #24, #25, #26, #27, #20, #21, #23 as indicated on the SWPPP) be installed prior to any future disturbances in these areas.

All construction entrances should be continually monitored for clean-up of sediment and tracking onto public roadways. All stream crossings should be continually cleaned during all construction activities.

The area behind the checks and traps should not be constructed lower than the rock areas. To get the capacity needed in these areas, the areas behind the traps should be expanded by increasing the length and/or the width.

Many of the diversion channels and ditches have checks installed, but the checks are not installed from toe to crest; therefore, these channels are not stabilized. Need to stabilize all diversion channels and ditches appropriately during construction to prevent erosion.

All areas that are left undisturbed for more than 7 days should be temporarily seeded following INDOT

standard specifications for temporary seeding.

Describe corrective actions implemented since the last inspection:

910+00	913+50	Right	Sediment deposited at silt fence and check dams.- <b>COMPLETE</b>
923+00	923+00	Right	Sediment deposited on filter stone of sediment trap.- <b>COMPLETE</b>
936+00	936+00	Center	Concrete washout failure. Part of liner fell into pit.- <b>COMPLETE</b>
936+00	936+00	Right/Left/Center	Sediment is discharged onto Carmichael Road (open to public use) and into the roadside ditch due to inadequate-ineffective erosion and sediment control measures to coincide with the earth disturbance activity that is occurring at this location.- <b>COMPLETE</b>
980+00	985+25	Left	Check dams over 1/3 full of sediment and partial failure; maintenance required.- <b>COMPLETE</b>
1039+50	1039+50	Left	Pipe-around failure. Stream flowing around pipe-around dam.- <b>COMPLETE</b>
1060+00	1065+00	Left	Check dams 1/3 full of sediment; needs removal.- <b>COMPLETE</b>
1070+75	1070+75	Left	Sediment overtopped sediment trap from rain event; maintenance required.- <b>COMPLETE</b>
1141+50	1141+50	Center	Sediment trap failure at temporary crossing. Rock/sediment migrating to jurisdictional stream. Sediment deposited on check dam east of temporary crossing; maintenance required.- <b>COMPLETE</b>
1122+00	1122+00	Left	Sediment overtopped sediment trap from rain event; maintenance required.- <b>COMPLETE</b>
1122+50	1122+50	Left	Sediment overtopped sediment trap from rain event; maintenance required.- <b>COMPLETE</b>
1239+50	1239+50	Center	Pipe-around flooded. Maintenance required to maintain flow into pipe-around.- <b>COMPLETE</b>
1240+00	1240+00	Left	Sediment deposited at filter berm; over 1/3 full.- <b>COMPLETE</b>
140+00	140+00	Left	Filter cloth on stream bank washed onto riprap.- <b>COMPLETE</b>
140+00	140+00	Left	Rip rap in new stream channel does not match up to old stream channel. Water flowing under filter cloth.- <b>COMPLETE</b>
144+00	144+00	Right	Sediment deposited onto riprap of Jurisdictional Stream.- <b>COMPLETE</b>
153+00	154+00	Left	Silt fence failure at jurisdictional ditch.- <b>COMPLETE</b>
163+50	163+50	Right	Water standing at haul road crossing over pipe. Sediment laden water washed over berm down to outlet end of pipe.- <b>COMPLETE</b>
174+00	174+00	Right	Failure of sediment trap right of temporary crossing. Sediment and rock migrating toward jurisdictional stream.- <b>COMPLETE</b>
173+50	173+50	Left	Sediment trap overtopped. Maintenance required.- <b>COMPLETE</b>
174+00	174+00	Right	Debris observed at inlet of concrete pipe of temporary crossing.- <b>COMPLETE</b>
197+00	197+00	Center	Dirt stock piled adjacent to silt fence. Silt fence knocked down from dirt clods.- <b>COMPLETE</b>
206+00	206+00	Left	Sediment trap overtopped, sediment deposited on filter stone, sediment deposited into trap. Maintenance required.- <b>COMPLETE</b>

Part A: Erosion and Sediment Control BMP's Inspected					
BMP Type	Approximate Station		Survey Line (e.g. Left, Right, Center)	BMP Maintenance or Corrective Action Needed (Include image file name, # of measures)	Noted on Previous Inspection (Y/N)
	From	To			
<b>SEGMENT 6</b>					
11	929+00	932+50	Right	Slopes of Sediment Trap #3 not stabilized.	Y
12	933+00	933+00	Left	Slopes of Sediment Basin #4 not stabilized.	Y
12	934+00	934+00	Left	Slopes of Sediment Basin #5 not stabilized.	Y
24	934+00	934+00	Left	Partial failure of temporary crossing at Indian Creek. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream. (See Photo)	Y
1	966+00	971+00	Left and Right	Check dams installed within diversion ditch but are not toe to crest; therefore the diversion channels are not stabilized.	Y
11	973+50	973+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	976+50	976+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
14	980+50	980+50	Right	Rock filter berm is not lower than top of silt fence and not flush with silt fence.	Y
1	980+00	985+25	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
1	982+50	985+00	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
11	985+00	985+00	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	992+50	992+50	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	994+50	994+50	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
15	994+75	994+75	Right	Wood chip berm ran over by utility installation.	Y
15	995+00	995+00	Right	Rock filter berm overtopped by sediment north of pipe. Failure of woodchip berm (connected to rock berm) south of pipe. Woodchips and rock observed on stream bank. (See Photo)	Y
7	999+50	999+50	Center	Partial failure of check dam in lost stream. Sediment deposited on filter stone and some rock/sediment washed off check dam towards jurisdictional stream.	Y
11	1000+00	1000+00	Right	Sediment traps on all 4 quadrants of temporary crossing not constructed to specifications. The length to width ratio is not 2:1.	Y
24	1000+00	1000+00	Right	Water/sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent water/sediment from going onto crossing and potentially into stream.	Y
24	1000+00	1000+00	Center	Sediment trap failure at temporary crossing.	Y
15	1003+00	1003+00	Left	Two rock berms tie into wood chip berm, high failure potential. Install hook at end of rock berm to act as a sediment trap or continue rock berm. (See Photo)	Y
<b>SEGMENT 7</b>					
24	1010+00	1010+00	Center	Sediment observed in stream; removal required.	N
7, 14	1034+00	1034+00	Right	Water flowed around check dam at silt fence; maintenance required.	N
15	1039+00	1039+00	Left	Previous filter berm failure at jurisdictional stream.	Y

				Sediment and rock observed in stream. (See Photo)	
20	1046+00	1046+00	Right	Previous rain event, pipe-around failure. Pipe could not be located in riprap jurisdictional ditch; may be off-site.	Y
7	1049+00	1049+00	Right	Previous failure of check dams located at constructed jurisdictional ditch. Rock and sediment observed in stream off ROW. (See Photo)	Y
7	1060+00	1065+00	Left	Check dams installed within ditch but not toe to crest; therefore the ditch is not stabilized. Slopes of ditch not stabilized.	Y
7	1060+00	1065+00	Right	Slopes of ditch not stabilized.	Y
11	1061+00	1061+00	Right	Sediment trap failure; sediment/rock observed in stream. (See Photo)	N
7	1068+00	1068+00	Left	Riprap showing on face of check dam; repair to INDOT specifications.	Y
15	1068+00	1070+00	Left	Wood chips located off-site.	Y
11	1070+75	1070+75	Left	Slopes of Sediment Trap #11 not stabilized.	Y
15	1070+75	1070+75	Left	Filter stone washed off of berm along stream.	Y
24	1071+00	1071+00	Left	Partial failure of temporary crossing at Indian Creek. Inlet side of pipes floated up. Rock observed in creek. (See Photo)	Y
15	1072+00	1072+00	Left	End of wood chip berm at lower elevation than wier of check dam; evaluate for sediment containment.	Y
26	1072+00	1072+00	Left	Past silt fence failures at Karst feature which drains into ground and leads to Indian Creek (Jurisdictional Stream). Additional silt fence installed is not entrenched according to specifications, which is subject to failure. Therefore, an alternative measure needs to be installed in this area. (See Photo) <b>The filter berm has not been installed for this area which is assessed at \$200/day per 100 linear foot.</b>	Y
24	1079+50	1079+50	Right	The crossing appears to be installed below the ordinary high water mark; re-evaluate.	Y
24	1080+50	1080+50	Right	Stream washed over temporary crossing. Debris deposited on crossing; maintenance required. Rock/sediment observed in stream.	Y
15	1080+50	1080+50	Left	Previous rain event, filter berm partially failed with rock and sediment in stream.	Y
27	1100+00	1100+00	Left	Prior to rain event, three pipe-arounds not installed correctly. Two pipes backfilled with dirt. Pipes installed uphill; stream will not flow. Silt cut in plastic lined ditch at pipe-around. Previously, three pipe-arounds failed after rain event. Need to reconstruct.	Y
15	1100+00	1100+00	Right	Additional filter stone needs to be installed on berm at outlet end of pipe and filter berm south of stream.	Y
24	1122+00	1122+50	Left	Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y
24	1122+00	1122+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in stream channel. (See Photo)	Y
14	1124+00	1124+00	Center	Silt fence failure at stream; consider installing alternative erosion control measure.	Y
28	1123+00	1123+00	Center	Wood chips located within the Jurisdictional Stream.	Y
25	1154+50	1154+50	Center	Equipment ruts on slopes north and south of stream not stabilized.	Y
15	1228+00	1228+00	Left	Sediment observed off ROW; removal required.	N
15	1240+00	1240+00	Left	Sediment deposited into stream and observed off ROW; removal required (See Photo)	N
24	1250+00	1250+00	Right, Left, Center	Sediment deposited into stream. Removal required. (See Photo)	N

15	1250+50	1250+50	Left	Filter berm failure; maintenance required.	N
<b>LINE C</b>					
1	206+00	209+00	Left	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	205+00	208+00	Center	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	206+00	208+00	Right	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
11	206+00	206+00	Left	Sediment Trap not constructed to specifications. Pit sloping away from rock dam and will not drain within the 48-72 hour storm event time period.	Y
11	202+50	202+50	Left	Sediment Trap increased, but still needs more capacity. The length to width ratio is not 2:1.	Y
14	202+00	202+00	Right	Silt fence on hill slope across ROW needs an outlet to prevent failure.	Y
11	202+00	202+00	Center	Temporary crossing sediment traps upslope 2 quadrants not constructed to specifications. The length to width ratio is not 2:1.	Y
11	199+00	200+00	Left	Sediment trap slopes not stabilized.	Y
7	199+00	199+00	Center	Check dam east of Carter Road overtopped. Sediment/rock observed in stream. May consider larger check dam or another erosion control measure.	Y
14, 15	199+00	199+00	Center	The area adjacent along the east side of Carter Road is disturbed and not stabilized to prevent sediment on the roadway.	Y
14	197+00	197+00	Center	Silt fence not entrenched and section needs to be replaced. (See Photo)	N
1, 11	190+00	198+50	Right	Diversion channel and sediment trap slopes not stabilized.	Y
24	189+50	189+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in creek. (See Photo)	N
24	189+50	189+50	Left	Maintain berms on either side of Indian Creek crossing. Maintain sediment deposition on crossing.	Y
11	189+50	189+50	Right	Slopes of Sediment Trap not stabilized.	Y
7	186+00	186+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
7	183+50	183+50	Right	Check dam capacity does not seem adequate for this area of drainage based on height.	Y
11	178+00	178+00	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
1	175+00	177+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
24	174+00	174+00	Right	Sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y
11	174+00	174+00	Right	Slopes of Sediment Trap #35 not stabilized.	Y
11	173+50	173+50	Right	Slopes of Sediment Trap #33 not stabilized.	Y
11	173+50	173+50	Right	Previous failure of slope of sediment trap #33. Sediment and rock off ROW. Previous failure of dam of sediment trap; sediment and rock observed in jurisdictional stream. (See Photo)	Y
1	167+50	169+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	164+00	165+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	161+00	163+00	Right	Check dams installed within diversion channel, but not toe	Y

				to crest; therefore, diversion channel is not stabilized.	
1	157+00	160+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
15, 11	154+00	154+00	Right	Previous filter berm failures. Previous sediment trap failure. Sediment and rock observed in stream.	Y
7	154+00	154+00	Left	Bank failure held by filter cloth. Sediment deposited onto riprap of jurisdictional ditch.	Y
1	151+00	154+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	150+00	154+00	Left	Check dams installed within ditch, but not toe to crest; therefore, ditch is not stabilized.	Y
1	150+00	154+00	Left	Check dam failures throughout ditch.	Y
1	145+00	148+00	Right	Check dams not installed within ditch; therefore, ditch is not stabilized.	Y
20	144+00	144+00	Right	Water undermining pipe at outlet end.	Y
7	143+00	143+00	Left	Check dam failure east of inlet end of pipe. Rock and sediment observed on riprap of jurisdictional stream. (See Photo)	Y
1	140+00	142+50	Right	Check dams not installed within channel; therefore, diversion channel is not stabilized.	Y

**Table of Types of Erosion and Sediment Control BMP's or Issues**

1	Diversion Interceptor	8	Check Dam, Traversable	15	Filter Berm	22	Concrete Washout
2	Temporary Seeding	9	Slope Drain	16	Filter Sock	23	Secondary Spill Containment
3	Permanent Sod or Seed	10	Splash Pad	17	Turbidity Curtain	24	Temporary Stream Crossing
4	Mulch (hydraulic or bonded fiber mulch)	11	Sediment Trap	18	Surface Roughening	25	Other:
5	Straw Mulch (blown/laid/crimped)	12	Sediment Basin	19	Vegetative Filter Strip	26	Other: Karst Features
6	Erosion Control Blankets	13	Retention Pond	20	Inlet/Outlet Protection	27	Other: Pipe arounds
7	Check Dam	14	Silt Fence	21	Construction entrance/exit	28	Other:

SEGMENT 6



Photo 1-Partial failure of Indian Creek crossing at Sta. 934+00



Photo 2-Wood chip berm failure at Sta. 995+00

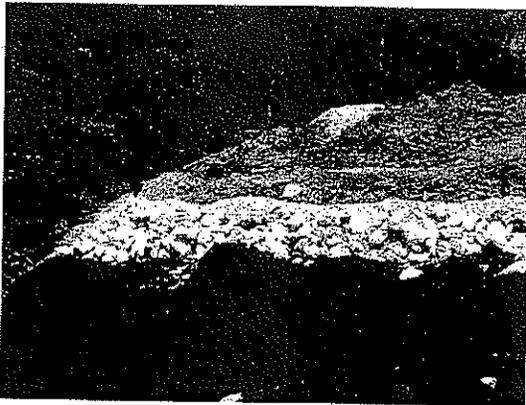


Photo 3-Wood chip berm ties into 2 rock berms at Sta. 1003+00

SEGMENT 7



Photo 1-Rock and sediment in stream at Sta. 1039+00



Photo 2- Rock and sediment in stream at Sta. 1049+00



Photo 3-Rock and sediment in stream at Sta. 1061+00



Photo 4-Partial failure of Indian Creek crossing at Sta. 1071+00

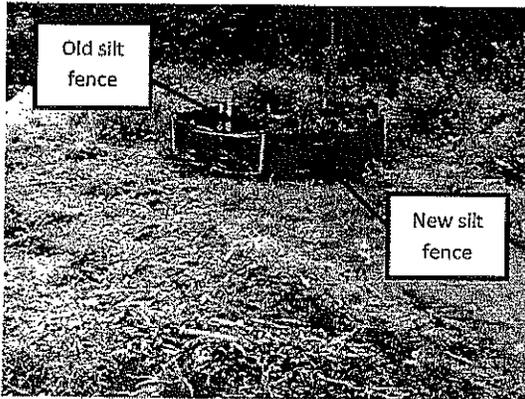


Photo 5-Silt fence failure fixed with same measure just larger area at Sta. 1072+00



Photo 6-Partial failure of Indian Creek crossing at Sta. 1122+00

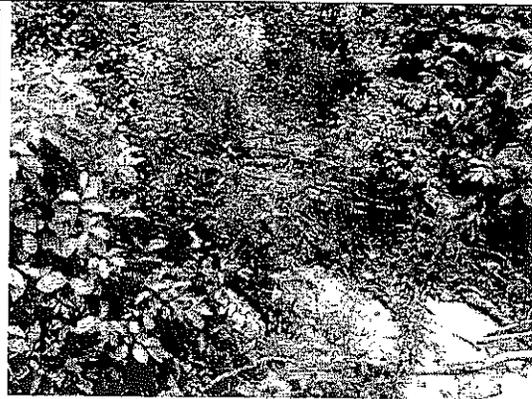


Photo 7-Sediment observed in stream channel at Sta. 1240+00



Photo 8-Sediment observed in stream channel at Sta. 1250+00

LINE C

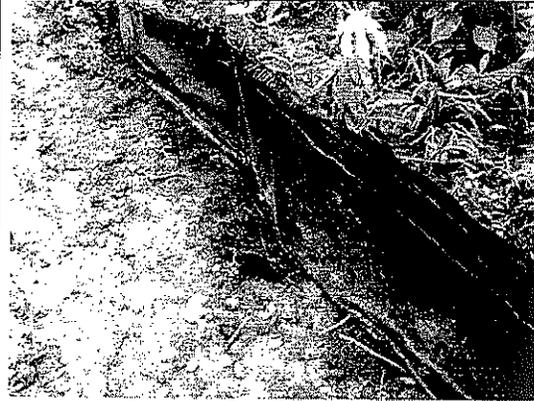


Photo 1-Silt fence not entrenched and section needs to be replaced at Sta. 197+00

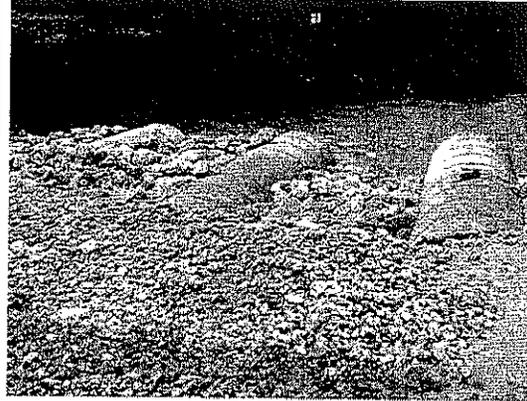


Photo 2-Partial failure of Indian Creek crossing at Sta. 189+50



Photo 3-Sediment and rock located off ROW at Sta. 173+50



Photo 4-Sediment and rock observed in stream at Sta. 173+50



Photo 5-Check dam failure at pipe inlet at Sta. 143+00



**BERNARDIN  
LOCHMUELLER &  
ASSOCIATES, INC.**

7/8-10/13  
*WRELLY.*  
6200 Vogel Road  
Evansville, IN 47715  
Phone: (812) 479-6200

### Stormwater Construction Site Inspection Report

General Information:					
<b>Project Name</b>	I-69	<b>Section</b>	4	<b>Segment/Package</b>	6 & 7
<b>Contract</b>	IR-33739				
<b>Station From</b>	909+00 Line A 140+00 Line C		<b>Station To</b>	1255+00 Line A 210+00 Line C	
<b>Date of Inspection</b>	July 08-10, 12, 2013			<b>Time</b>	9:00am ET
<b>Inspector's Name(s)</b>	Danika Fleck, BLA, Inc.				
<b>Describe Present Phase of the Construction</b>	Erosion Control Measure Installation, Pipe Installation, Sediment Removal in Streams				
<b>Type of Inspection:</b>	<input checked="" type="checkbox"/> Daily	<input type="checkbox"/> During storm event	<input checked="" type="checkbox"/> Post-storm event	<input type="checkbox"/> Other:	
Weather Information:					
<b>Has there been a storm event since the last inspection?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
<b>If yes, provide:</b>					
Storm Date:	Storm Duration (hrs):	Approximate Amount of Precipitation:			
07/10/13	1 hr.	0.5 inches (Gohmann Field Office)			
<b>Weather at time of this inspection:</b>					
<input type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Rain	<input type="checkbox"/> Sleet	<input type="checkbox"/> Fog	<input type="checkbox"/> Snowing
<input checked="" type="checkbox"/> Other: Partly Cloudy	<b>Temperature:</b> 80-90°F				
<b>Have any discharges occurred since the last inspection?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
<b>If yes, describe: Several areas throughout the project</b>					
<b>Are there any discharges at the time of inspection?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
<b>If yes, describe: Several areas throughout the project</b>					

### Non-Compliance/General Comments

Describe any incidents of non-compliance or general comments not described above:

A thorough inspection was not able to be completed for the week due to inspection and approval of sediment/fill removal from many jurisdictional streams within the right-of-way due to rain events from June 25-26, 2013.

Portions of several Indian Creek temporary crossings have suffered damage due to increased flow within the stream due to rainfall-runoff events. Rock/stone/debris was discharged into Indian Creek at the locations of damage to the temporary crossings. May want to consider different materials (stone/rock size, etc.) at the temporary crossings to reduce the potential for future/additional damages to the temporary crossings. Any and all changes/modifications (that are not in accordance with the approved plans and specifications) to the temporary crossings require approval from INDOT OES, Hydraulics, and IDEM, PRIOR to implementation.

Many of the sediment traps that are installed are not constructed according to standards and specifications (i.e. the traps do not dewater, the side slopes are constructed steeper than specified, the length to width ratio of the trap pool areas is not in accordance with specifications, etc.). Please evaluate all sediment traps and modify/reconstruct the traps in accordance with standards and specifications. Refer to the Indiana Storm Water Quality Manual for construction details, standards, and specifications etc.

Recommend that sediment traps (#9, #13, #34, #28, #30, #24, #25, #26, #27, #20, #21, #23 as indicated on the SWPPP) be installed prior to any future disturbances in these areas.

All construction entrances should be continually monitored for clean-up of sediment and tracking onto public roadways. All stream crossings should be continually cleaned during all construction activities.

The area behind the checks and traps should not be constructed lower than the rock areas. To get the capacity needed in these areas, the areas behind the traps should be expanded by increasing the length and/or the width.

Many of the diversion channels and ditches have checks installed, but the checks are not installed from

toe to crest; therefore, these channels are not stabilized. Need to stabilize all diversion channels and ditches appropriately during construction to prevent erosion.

All areas that are left undisturbed for more than 7 days should be temporarily seeded following INDOT standard specifications for temporary seeding.

Describe corrective actions implemented since the last inspection:

995+00	995+00	Right	Rock filter berm overtopped by sediment north of pipe. Failure of woodchip berm (connected to rock berm) south of pipe. Woodchips and rock observed on stream bank. <b>-COMPLETE</b>
999+50	999+50	Center	Partial failure of check dam in lost stream. Sediment deposited on filter stone and some rock/sediment washed off check dam towards jurisdictional stream. <b>-COMPLETE</b>
1000+00	1000+00	Center	Sediment trap failure at temporary crossing. <b>-COMPLETE</b>
1010+00	1010+00	Center	Sediment observed in stream; removal required. <b>-COMPLETE</b>
1034+00	1034+00	Right	Water flowed around check dam at silt fence; maintenance required. <b>-COMPLETE</b>
1070+75	1070+75	Left	Filter stone washed off of berm along stream. <b>-COMPLETE</b>
1072+00	1072+00	Left	Past silt fence failures at Karst feature which drains into ground and leads to Indian Creek (Jurisdictional Stream). Additional silt fence installed is not entrenched according to specifications, which is subject to failure. Therefore, an alternative measure needs to be installed in this area. (See Photo) <b>The filter berm has not been installed for this area which is assessed at \$200/day per 100 linear foot. -COMPLETE</b>
1100+00	1100+00	Right	Additional filter stone needs to be installed on berm at outlet end of pipe and filter berm south of stream. <b>-COMPLETE</b>
1250+50	1250+50	Left	Filter berm failure; maintenance required. <b>-COMPLETE</b>
173+50	173+50	Right	Previous failure of slope of sediment trap #33. Sediment and rock off ROW. Previous failure of dam of sediment trap; sediment and rock observed in jurisdictional stream. <b>-COMPLETE</b>
150+00	154+00	Left	Check dam failures throughout ditch. <b>-COMPLETE</b>
143+00	143+00	Left	Check dam failure east of inlet end of pipe. Rock and sediment observed on riprap of jurisdictional stream. <b>-COMPLETE</b>

**Part A: Erosion and Sediment Control BMP's Inspected**

BMP Type	Approximate Station		Survey Line: (e.g. Left, Right, Center)	BMP Maintenance or Corrective Action Needed (Include image file name, # of measures)	Noted on Previous Inspection (Y/N)
	From	To			
<b>SEGMENT 6</b>					
11	929+00	932+50	Right	Slopes of Sediment Trap #3 not stabilized.	Y
12	933+00	933+00	Left	Slopes of Sediment Basin #4 not stabilized.	Y
12	934+00	934+00	Left	Slopes of Sediment Basin #5 not stabilized.	Y
24	934+00	934+00	Left	Effective sediment control measures/methods are necessary at both sides of the temporary stream crossing to prevent sediment from going onto crossing and potentially into stream.	Y
1	966+00	971+00	Left, Right	Check dams installed within diversion ditch but are not toe to crest; therefore the diversion channels are not stabilized.	Y
11	973+50	973+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	976+50	976+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y

14	980+50	980+50	Right	Rock filter berm is not lower than top of silt fence and not flush with silt fence.	Y
1	980+00	985+25	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
1	982+50	985+00	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
11	985+00	985+00	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	992+50	992+50	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	994+50	994+50	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
15	994+75	994+75	Right	Wood chip berm ran over by utility installation.	Y
11	1000+00	1000+00	Right	Sediment traps on all 4 quadrants of temporary crossing not constructed to specifications. The length to width ratio is not 2:1.	Y
24	1000+00	1000+00	Right	Water/sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent water/sediment from going onto crossing and potentially into stream.	Y
15	1003+00	1003+00	Left	Two rock berms tie into wood chip berm, high failure potential. Install hook at end of rock berm to act as a sediment trap or continue rock berm.	Y
<b>SEGMENT 7</b>					
15	1039+00	1039+00	Left	Previous filter berm failure at jurisdictional stream. Sediment and rock observed in stream.	Y
20	1046+00	1046+00	Right	Previous rain event, pipe-around failure. Pipe could not be located in riprap jurisdictional ditch; may be off-site.	Y
7	1049+00	1049+00	Right	Previous failure of check dams located at constructed jurisdictional ditch. Rock and sediment observed in stream off ROW.	Y
7	1060+00	1065+00	Left	Check dams installed within ditch but not toe to crest; therefore the ditch is not stabilized. Slopes of ditch not stabilized.	Y
7	1060+00	1065+00	Right	Slopes of ditch not stabilized.	Y
11	1061+00	1061+00	Right	Sediment trap failure; sediment/rock observed in stream.	Y
7	1068+00	1068+00	Left	Riprap showing on face of check dam; repair to INDOT specifications.	Y
15	1068+00	1070+00	Left	Wood chips located off-site.	Y
11	1070+75	1070+75	Left	Slopes of Sediment Trap #11 not stabilized.	Y
24	1071+00	1071+00	Left	Partial failure of temporary crossing at Indian Creek. Inlet side of pipes floated up. Rock observed in creek.	Y
15	1072+00	1072+00	Left	End of wood chip berm at lower elevation than wier of check dam; evaluate for sediment containment.	Y
24	1079+50	1079+50	Right	The crossing appears to be installed below the ordinary high water mark; re-evaluate.	Y
24	1080+50	1080+50	Right	Stream washed over temporary crossing. Debris deposited on crossing; maintenance required. Rock/sediment observed in stream.	Y
15	1080+50	1080+50	Left	Previous rain event, filter berm partially failed with rock and sediment in stream.	Y
15, 2, 5	1100+00	1100+00	Right	Bare dirt not stabilized at riprap. Repair rock berm. Remove sediment in pipe. (See Photo)	N
24	1122+00	1122+50	Left	Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y

24	1122+00	1122+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in stream channel.	Y
14	1124+00	1124+00	Center	Silt fence failure at stream; consider installing alternative erosion control measure.	Y
24	1135+00	1135+00	Center	Riprap observed in stream.	N
24	1166+00	1166+00	Center	Repair side and remove sediment at temporary crossing. (See Photo)	N
15	1222+00	1222+00	Left	Sediment deposited at rock berm; removal required. (See Photo)	N
15	1228+00	1228+00	Left	Sediment observed in stream off ROW; removal required.	Y
15	1240+00	1240+00	Left	Sediment deposited into stream and observed off ROW; removal required	Y
24	1250+00	1250+00	Right, Left, Center	Sediment deposited into stream. Removal required.	Y
<b>LINE C</b>					
1	206+00	209+00	Left	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	205+00	208+00	Center	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	206+00	208+00	Right	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
11	206+00	206+00	Left	Sediment Trap not constructed to specifications. Pit sloping away from rock dam and will not drain within the 48-72 hour storm event time period.	Y
11	202+50	202+50	Left	Sediment Trap increased, but still needs more capacity. The length to width ratio is not 2:1.	Y
14	202+00	202+00	Right	Silt fence on hill slope across ROW needs an outlet to prevent failure.	Y
11	202+00	202+00	Center	Temporary crossing sediment traps upslope 2 quadrants not constructed to specifications. The length to width ratio is not 2:1.	Y
11	199+00	200+00	Left	Sediment trap slopes not stabilized.	Y
7	199+00	199+00	Center	Check dam east of Carter Road overtopped. Sediment/rock observed in stream. May consider larger check dam or another erosion control measure.	Y
14, 15	199+00	199+00	Center	The area adjacent along the east side of Carter Road is disturbed and not stabilized to prevent sediment on the roadway.	Y
14	197+00	197+00	Center	Silt fence not entrenched and section needs to be replaced.	Y
1, 11	190+00	198+50	Right	Diversion channel and sediment trap slopes not stabilized.	Y
24	189+50	189+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in creek.	Y
24	189+50	189+50	Left	Maintain berms on either side of Indian Creek crossing. Maintain sediment deposition on crossing.	Y
11	189+50	189+50	Right	Slopes of Sediment Trap not stabilized.	Y
7	186+00	186+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
7	183+50	183+50	Right	Check dam capacity does not seem adequate for this area of drainage based on height.	Y
11	178+00	178+00	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
1	175+00	177+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
24	174+00	174+00	Right	Sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y

11	174+00	174+00	Right	Slopes of Sediment Trap #35 not stabilized.	Y
11	173+50	173+50	Right	Slopes of Sediment Trap #33 not stabilized.	Y
1	167+50	169+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	164+00	165+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	161+00	163+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	157+00	160+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
15, 11	154+00	154+00	Right	Previous filter berm failures. Previous sediment trap failure. Sediment and rock observed in stream.	Y
7	154+00	154+00	Left	Bank failure held by filter cloth. Sediment deposited onto riprap of jurisdictional ditch.	Y
1	151+00	154+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	150+00	154+00	Left	Check dams installed within ditch, but not toe to crest; therefore, ditch is not stabilized.	Y
1	145+00	148+00	Right	Check dams not installed within ditch; therefore, ditch is not stabilized.	Y
15	145+00	145+00	Right	Dirt higher than rock berm; maintenance required	N
20	144+00	144+00	Right	Stream undermining pipe at outlet end.	Y
1	140+00	142+50	Right	Check dams not installed within channel; therefore, diversion channel is not stabilized.	Y
14	140+00	140+50	Left	Silt fence not installed per specifications. Silt fence installed loose, not installed upslope to prevent sediment loss. (See Photo)	N
2, 5	140+00	140+50	Left	Dirt berm not stabilized (ties into wood chip berm). Area between silt fence and berm not stabilized. (See Photo)	N
7	139+00	139+00	Left	Sediment and rock washed over check dam adjacent to stream. Remove sediment and rock; rebuild check dam to specifications.	N
14	139+00	139+00	Right	Repair silt fence	N
12	138+00	138+00	Left	Sediment basin slopes not stabilized, portion of dirt berm washed out from rain events, inlet pipe blocked with debris. (See Photo)	N
14	137+00	138+00	Left	Repair silt fence. Water undermined trenching.	N
7	137+00	137+00	Right	Check dam washed over, not built to specifications, built off ROW. (See Photo)	N
11	135+50	135+50	Left	Remove sediment deposit at sediment trap dam; rebuild rock dam (large amount of filter stone)	N
7	132+00	137+00	Left	Rebuild check dams to specifications. Large amount of filter stone observed, water washed around sides of check dams, check dams not installed toe to crest for stabilization; therefore large ruts have developed in the ditch line (See Photo)	N
2, 5	132+00	135+50	Right	Slope not stabilized along rock berm (See Photo)	N

**Table of Types of Erosion and Sediment Control BMP's or Issues**

1	Diversion Interceptor	8	Check Dam, Traversable	15	Filter Berm	22	Concrete Washout
2	Temporary Seeding	9	Slope Drain	16	Filter Sock	23	Secondary Spill Containment
3	Permanent Sod or Seed	10	Splash Pad	17	Turbidity Curtain	24	Temporary Stream Crossing
4	Mulch (hydraulic or bonded fiber mulch)	11	Sediment Trap	18	Surface Roughening	25	Other:
5	Straw Mulch (blown/laid/crimped)	12	Sediment Basin	19	Vegetative Filter Strip	26	Other: Karst Features
6	Erosion Control Blankets	13	Retention Pond	20	Inlet/Outlet Protection	27	Other: Pipe arounds
7	Check Dam	14	Silt Fence	21	Construction entrance/exit	28	Other:

SEGMENT 7

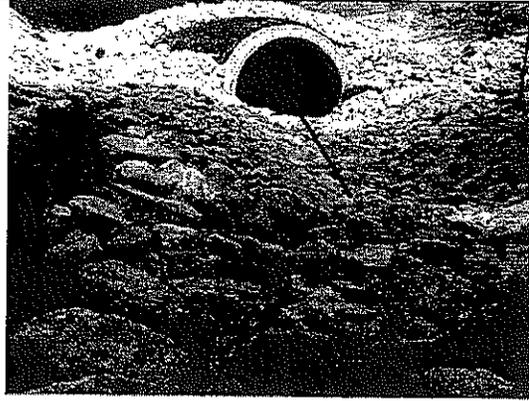


Photo 1-Stabilize dirt at riprap and remove sediment in pipe at Sta. 1100+00



Photo 2-Repair side and remove sediment at temporary crossing at Sta. 166+00

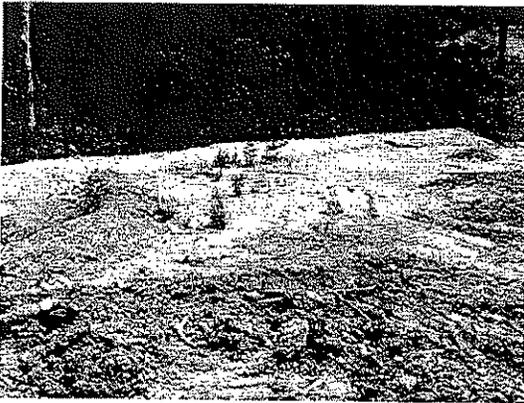


Photo-Remove sediment at rock berm at Sta. 1222+00

LINE C

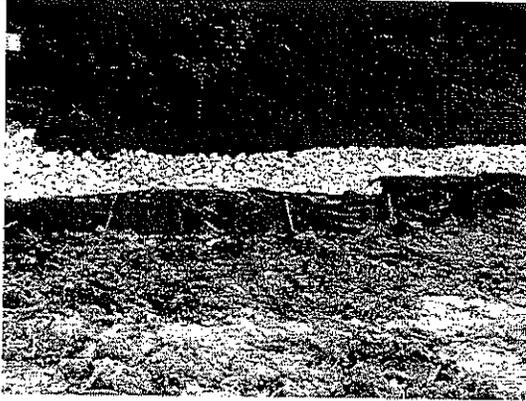


Photo 1-Silt fence not installed per specs and area not stabilized at Sta. 140+00-140+50



Photo 2-Berm washed out, slopes not stabilized at sediment basin at Sta. 138+00



Photo 3-Check dam not built to specs and washed over from rain events at Sta. 137+00



Photo 4-Check dams not built to spec and washed around ends at Sta. 132+00-137+00

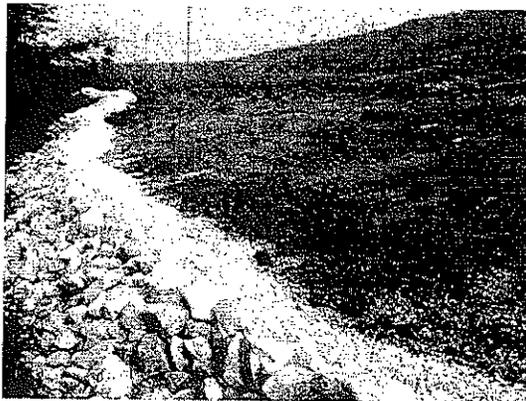


Photo 5-Area not stabilized at rock berm at Sta. 132+00-135+50



**BERNARDIN  
LOCHMUELLER &  
ASSOCIATES, INC.**

6200 Vogel Road  
Evansville, IN 47715  
Phone: (812) 479-6200

7/15-16/13  
Weekly

### Stormwater Construction Site Inspection Report

General Information							
Project Name	I-69	Section	4	Segment/Package	6 & 7	Contract	IR-33739
Station From	909+00 Line A 140+00 Line C			Station To	1255+00 Line A 210+00 Line C		
Date of Inspection	July 15-16, 2013			Time	9:00am ET		
Inspector's Name(s)	Danika Fleck, BLA, Inc.						
Describe Present Phase of the Construction	Erosion Control Measure Installation, Pipe Installation, Sediment Removal in Streams						
Type of Inspection:	<input checked="" type="checkbox"/> Daily	<input type="checkbox"/> During storm event	<input type="checkbox"/> Post-storm event	<input type="checkbox"/> Other:			
Weather Information							
Has there been a storm event since the last inspection?	<input type="checkbox"/> Yes <input type="checkbox"/> No						
If yes, provide:	Storm Date: _____ Storm Duration (hrs): _____ Approximate Amount of Precipitation: _____						
Weather at time of this inspection:							
<input type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Rain	<input type="checkbox"/> Sleet	<input type="checkbox"/> Fog	<input type="checkbox"/> Snowing	<input type="checkbox"/> High Winds	
<input checked="" type="checkbox"/> Other: Partly Cloudy	Temperature: 90°F						
Have any discharges occurred since the last inspection?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
If yes, describe:	Several areas throughout the project						
Are there any discharges at the time of inspection?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
If yes, describe:	Several areas throughout the project						

### Non-Compliance/General Comments

Describe any incidents of non-compliance or general comments not described above:

Temporary seeding of all bare areas that are in non-compliance, per the stipulation of the stop work order by INDOT.

Portions of several Indian Creek temporary crossings have suffered damage due to increased flow within the stream due to rainfall-runoff events. Rock/stone/debris was discharged into Indian Creek at the locations of damage to the temporary crossings. May want to consider different materials (stone/rock size, etc.) at the temporary crossings to reduce the potential for future/additional damages to the temporary crossings. Any and all changes/modifications (that are not in accordance with the approved plans and specifications) to the temporary crossings require approval from INDOT OES, Hydraulics, and IDEM, PRIOR to implementation.

Many of the sediment traps that are installed are not constructed according to standards and specifications (i.e. the traps do not dewater, the side slopes are constructed steeper than specified, the length to width ratio of the trap pool areas is not in accordance with specifications, etc.). Please evaluate all sediment traps and modify/reconstruct the traps in accordance with standards and specifications. Refer to the Indiana Storm Water Quality Manual for construction details, standards, and specifications etc.

Recommend that sediment traps (#9, #13, #34, #28, #30, #24, #25, #26, #27, #20, #21, #23 as indicated on the SWPPP) be installed prior to any future disturbances in these areas.

All construction entrances should be continually monitored for clean-up of sediment and tracking onto public roadways. All stream crossings should be continually cleaned during all construction activities.

The area behind the checks and traps should not be constructed lower than the rock areas. To get the capacity needed in these areas, the areas behind the traps should be expanded by increasing the length and/or the width.

Many of the diversion channels and ditches have checks installed, but the checks are not installed from toe to crest; therefore, these channels are not stabilized. Need to stabilize all diversion channels and

ditches appropriately during construction to prevent erosion.

All areas that are left undisturbed for more than 7 days should be temporarily seeded following INDOT standard specifications for temporary seeding.

Describe corrective actions implemented since the last inspection:

980+50	980+50	Right	Rock filter berm is not lower than top of silt fence and not flush with silt fence. <b>-COMPLETE</b>
994+75	994+75	Right	Wood chip berm ran over by utility installation. <b>-COMPLETE</b>
1000+00	1000+00	Right	Water/sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent water/sediment from going onto crossing and potentially into stream. <b>-COMPLETE</b>
1003+00	1003+00	Left	Two rock berms tie into wood chip berm, high failure potential. Install hook at end of rock berm to act as a sediment trap or continue rock berm. <b>-COMPLETE</b>
934+00	934+00	Left	Effective sediment control measures/methods are necessary at both sides of the temporary stream crossing to prevent sediment from going onto crossing and potentially into stream. <b>-COMPLETE</b>
1068+00	1068+00	Left	Riprap showing on face of check dam; repair to INDOT specifications. <b>-COMPLETE</b>
1071+00	1071+00	Left	Rock observed in creek. <b>-COMPLETE</b>
1166+00	1166+00	Center	Repair side and remove sediment at temporary crossing. <b>-COMPLETE</b>
138+00	138+00	Left	portion of dirt berm washed out from rain events, inlet pipe blocked with debris. <b>-COMPLETE</b>
139+00	139+00	Right	Repair silt fence <b>-COMPLETE</b>
139+00	139+00	Left	Sediment and rock washed over check dam adjacent to stream. Remove sediment and rock; rebuild check dam to specifications. <b>-COMPLETE</b>
137+00	138+00	Left	Repair silt fence. Water undermined trenching. <b>-COMPLETE</b>
145+00	145+00	Right	Dirt higher than rock berm; maintenance required <b>-COMPLETE</b>
199+00	199+00	Center	Check dam east of Carter Road overtopped. Sediment/rock observed in stream. <b>-COMPLETE</b>

**Part A: Erosion and Sediment Control BMP's Inspected**

BMP Type	Approximate Station		Survey Line: (e.g. Left, Right, Center)	BMP Maintenance or Corrective Action Needed (Include image file name, # of measures)	Noted on Previous Inspection (Y/N)
	From	To			
<b>SEGMENT 6</b>					
14	910+50	910+50	Right	Remove sediment at silt fence.	N
14	913+00	913+00	Right	Remove sediment at silt fence. (See Photo)	N
11	929+00	932+50	Right	Slopes of Sediment Trap #3 not stabilized.	Y
11	932+50	932+50	Right	Sediment deposited on filter stone of sediment trap. (See trap)	N
12	933+00	933+00	Left	Slopes of Sediment Basin #4 not stabilized.	Y
12	934+00	934+00	Left	Slopes of Sediment Basin #5 not stabilized.	Y
1	966+00	971+00	Left, Right	Check dams installed within diversion ditch but are not toe to crest; therefore the diversion channels are not stabilized.	Y
11	973+50	973+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y

11	976+50	976+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
1	980+00	985+25	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
1	982+50	985+00	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
11	985+00	985+00	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	992+50	992+50	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	994+50	994+50	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	1000+00	1000+00	Right	Sediment traps on all 4 quadrants of temporary crossing not constructed to specifications. The length to width ratio is not 2:1.	Y
<b>SEGMENT 7</b>					
15	1039+00	1039+00	Left	Previous filter berm failure at jurisdictional stream. Sediment and rock observed in stream.	Y
7	1049+00	1049+00	Right	Previous failure of check dams located at constructed jurisdictional ditch. Rock and sediment observed in stream off ROW.	Y
7	1060+00	1065+00	Left	Check dams installed within ditch but not toe to crest; therefore the ditch is not stabilized. Slopes of ditch not stabilized.	Y
7	1060+00	1065+00	Right	Slopes of ditch not stabilized.	Y
11	1061+00	1061+00	Right	Sediment trap failure; sediment/rock observed in stream.	Y
15	1068+00	1070+00	Left	Wood chips located off-site.	Y
11	1070+75	1070+75	Left	Slopes of Sediment Trap #11 not stabilized.	Y
24	1080+50	1080+50	Right	Repair side and remove sediment at temporary crossing.	N
24	1080+50	1080+50	Right	Rock/sediment observed in stream.	Y
15	1080+50	1080+50	Left	Previous rain event, filter berm partially failed with rock and sediment in stream.	Y
15	1080+50	1080+50	Left	Equipment ran over rock filter berm; needs repair. (See Photo)	N
15, 2, 5	1100+00	1100+00	Right	Bare dirt not stabilized at riprap. Repair rock berm. Remove sediment in pipe. (See Photo)	Y
24	1122+00	1122+50	Left	Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y
24	1122+00	1122+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in stream channel.	Y
14	1124+00	1124+00	Center	Silt fence failure at stream; consider installing alternative erosion control measure.	Y
24	1135+00	1135+00	Center	Riprap observed in stream.	Y
7	1155+00	1155+00	Center	Rock and sediment observed in stream from previous rain event. (See Photo)	N
15	1222+00	1222+00	Left	Dirt observed in riprap at pipe of jurisdictional stream. Filter cloth maintenance. (See Photo)	N
15	1222+00	1222+00	Left	Sediment deposited at rock berm; removal required. (See Photo)	Y
15	1228+00	1228+00	Left	Sediment observed in stream off ROW; removal required.	Y
15	1240+00	1240+00	Left	Sediment deposited into stream and observed off ROW; removal required	Y
24	1250+00	1250+00	Right, Left, Center	Sediment deposited into stream. Removal required.	Y
<b>LINE C</b>					
1	206+00	209+00	Left	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y

1	205+00	208+00	Center	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	206+00	208+00	Right	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
11	206+00	206+00	Left	Sediment Trap not constructed to specifications. Pit sloping away from rock dam and will not drain within the 48-72 hour storm event time period.	Y
11	202+50	202+50	Left	Sediment Trap increased, but still needs more capacity. The length to width ratio is not 2:1.	Y
14	202+00	202+00	Right	Silt fence on hill slope across ROW needs an outlet to prevent failure.	Y
11	202+00	202+00	Center	Temporary crossing sediment traps upslope 2 quadrants not constructed to specifications. The length to width ratio is not 2:1.	Y
11	199+00	200+00	Left	Sediment trap slopes not stabilized.	Y
14, 15	199+00	199+00	Center	The area adjacent along the east side of Carter Road is disturbed and not stabilized to prevent sediment on the roadway.	Y
14	197+00	197+00	Center	Silt fence not entrenched and section needs to be replaced.	Y
1, 11	190+00	198+50	Right	Diversion channel and sediment trap slopes not stabilized.	Y
24	189+50	189+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in creek.	Y
24	189+50	189+50	Left	Maintain berms on either side of Indian Creek crossing. Maintain sediment deposition on crossing.	Y
11	189+50	189+50	Right	Slopes of Sediment Trap not stabilized.	Y
14	190+50	190+50	Right	Silt fence and rock berm connection needs maintenance.	N
7	186+00	186+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
7	183+50	183+50	Right	Check dam capacity does not seem adequate for this area of drainage based on height.	Y
11	178+00	178+00	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
1	175+00	177+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
24	174+00	174+00	Right	Sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y
11	174+00	174+00	Right	Slopes of Sediment Trap #35 not stabilized.	Y
11	173+50	173+50	Right	Slopes of Sediment Trap #33 not stabilized.	Y
1	167+50	169+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	164+00	165+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	161+00	163+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	157+00	160+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
15, 11	154+00	154+00	Right	Previous filter berm failures. Previous sediment trap failure. Sediment and rock observed in stream.	Y
7	154+00	154+00	Left	Bank failure held by filter cloth. Sediment deposited onto riprap of jurisdictional ditch.	Y
1	151+00	154+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	150+00	154+00	Left	Check dams installed within ditch, but not toe to crest; therefore, ditch is not stabilized.	Y

1	145+00	148+00	Right	Check dams not installed within ditch; therefore, ditch is not stabilized.	Y
20	144+00	144+00	Right	Stream undermining pipe at outlet end.	Y
1	140+00	142+50	Right	Check dams not installed within channel; therefore, diversion channel is not stabilized.	Y
14	140+00	140+50	Left	Silt fence not installed per specifications. Silt fence installed loose, not installed upslope to prevent sediment loss. (See Photo)	Y
2, 5	140+00	140+50	Left	Dirt berm not stabilized (ties into wood chip berm). Area between silt fence and berm not stabilized. (See Photo)	Y
12	138+00	138+00	Left	Sediment basin slopes not stabilized.	Y
7	137+00	137+00	Right	Check dam washed over, not built to specifications, built off ROW. (See Photo)	Y
11	135+50	135+50	Left	Remove sediment deposit at sediment trap dam; rebuild rock dam (large amount of filter stone)	Y
7	132+00	137+00	Left	Rebuild check dams to specifications. Large amount of filter stone observed, water washed around sides of check dams, check dams not installed toe to crest for stabilization; therefore large ruts have developed in the ditch line	Y
2, 5	132+00	135+50	Right	Slope not stabilized along rock berm (See Photo)	Y

**Table of Types of Erosion and Sediment Control BMP's or Issues**

1	Diversion Interceptor	8	Check Dam, Traversable	15	Filter Berm	22	Concrete Washout
2	Temporary Seeding	9	Slope Drain	16	Filter Sock	23	Secondary Spill Containment
3	Permanent Sod or Seed	10	Splash Pad	17	Turbidity Curtain	24	Temporary Stream Crossing
4	Mulch (hydraulic or bonded fiber mulch)	11	Sediment Trap	18	Surface Roughening	25	Other:
5	Straw Mulch (blown/laid/crimped)	12	Sediment Basin	19	Vegetative Filter Strip	26	Other: Karst Features
6	Erosion Control Blankets	13	Retention Pond	20	Inlet/Outlet Protection	27	Other: Pipe arounds
7	Check Dam	14	Silt Fence	21	Construction entrance/exit	28	Other:

SEGMENT 6



Photo 1- Sediment deposited at silt fence at Sta. 913+00



Photo 2- Sediment deposited on filter stone at Sta. 932+50

SEGMENT 7



Photo 1-Equipment damaged rock filter berm at Sta. 1080+50

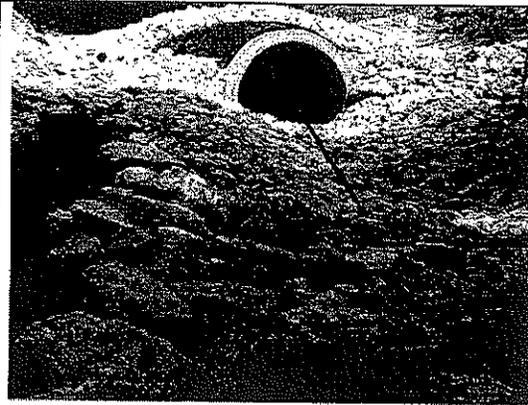


Photo 2-Stabilize dirt at riprap and remove sediment in pipe at Sta. 1100+00

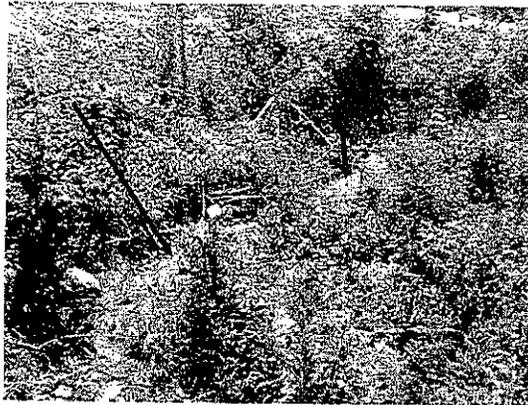


Photo 3-Rock and sediment deposited into jurisdictional stream at Sta. 1155+00



Photo 4-Dirt observed on riprap and filter cloth maintenance at Sta. 1222+00

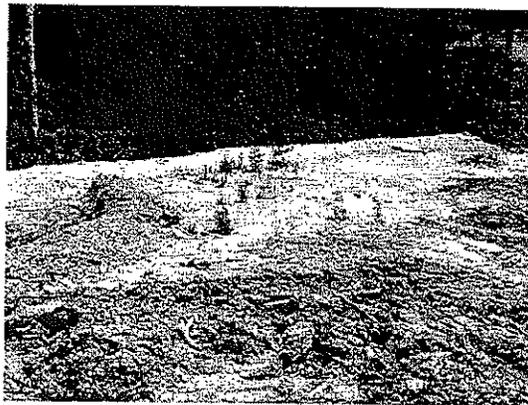


Photo-Remove sediment at rock berm at Sta. 1222+00

LINE C

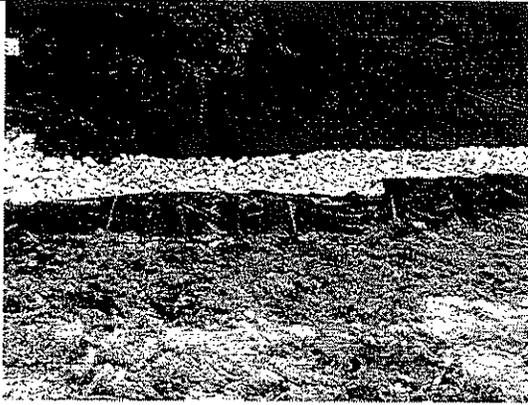


Photo 1-Silt fence not installed per specs and area not stabilized at Sta. 140+00-140+50

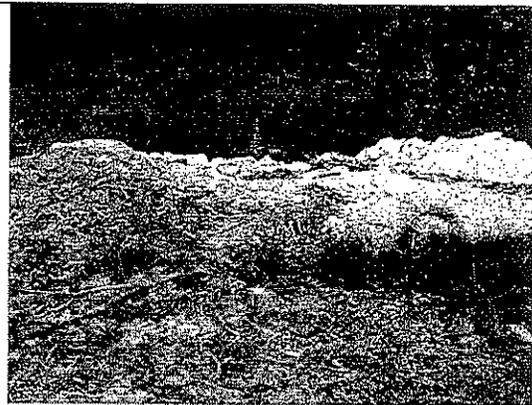


Photo 2-Check dam not built to specs and washed over from rain events at Sta. 137+00



Photo 3-Area not stabilized at rock berm at Sta. 132+00-135+50



**Stormwater Construction Site Inspection Report**

General Information							
<b>Project Name</b>	I-69	<b>Section</b>	4	<b>Segment/Package</b>	6 & 7	<b>Contract</b>	IR-33739
<b>Station From</b>	909+00 Line A 140+00 Line C			<b>Station To</b>	1255+00 Line A 210+00 Line C		
<b>Date of Inspection</b>	July 22, 2013			<b>Time</b>	9:00am ET		
<b>Inspector's Name(s)</b>	Danika Fleck, BLA, Inc.; Chad Sipes, INDOT						
<b>Describe Present Phase of the Construction</b>	Erosion Control Measure Installation, Pipe Installation, Sediment Removal in Streams						
<b>Type of Inspection:</b>	<input type="checkbox"/> Daily	<input type="checkbox"/> During storm event	<input checked="" type="checkbox"/> Post-storm event	<b>Other:</b>			
Weather Information							
<b>Has there been a storm event since the last inspection?</b>	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No				
<b>If yes, provide:</b>	Storm Date: 07/20		Storm Duration (hrs): Extended		Approximate Amount of Precipitation: 0.7 inches (INDOT Field Office)		
<b>Weather at time of this inspection:</b>							
<input type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Rain	<input type="checkbox"/> Sleet	<input type="checkbox"/> Fog	<input type="checkbox"/> Snowing	<input type="checkbox"/> High Winds	
<input checked="" type="checkbox"/> Other: Partly Cloudy		<b>Temperature:</b> 90°F					
<b>Have any discharges occurred since the last inspection?</b>	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No				
<b>If yes, describe:</b>	Several areas throughout the project						
<b>Are there any discharges at the time of inspection?</b>	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No				
<b>If yes, describe:</b>	Several areas throughout the project						

**Non-Compliance/General Comments**

Describe any incidents of non-compliance or general comments not described above:

Temporary seeding of all bare areas that are in non-compliance, per the stipulation of the stop work order by INDOT.

Portions of several Indian Creek temporary crossings have suffered damage due to increased flow within the stream due to rainfall-runoff events. Rock/stone/debris was discharged into Indian Creek at the locations of damage to the temporary crossings. May want to consider different materials (stone/rock size, etc.) at the temporary crossings to reduce the potential for future/additional damages to the temporary crossings. Any and all changes/modifications (that are not in accordance with the approved plans and specifications) to the temporary crossings require approval from INDOT OES, Hydraulics, and IDEM, PRIOR to implementation.

Many of the sediment traps that are installed are not constructed according to standards and specifications (i.e. the traps do not dewater, the side slopes are constructed steeper than specified, the length to width ratio of the trap pool areas is not in accordance with specifications, etc.). Please evaluate all sediment traps and modify/reconstruct the traps in accordance with standards and specifications. Refer to the Indiana Storm Water Quality Manual for construction details, standards, and specifications etc.

Recommend that sediment traps (#9, #13, #34, #28, #30, #24, #25, #26, #27, #20, #21, #23 as indicated on the SWPPP) be installed prior to any future disturbances in these areas.

All construction entrances should be continually monitored for clean-up of sediment and tracking onto public roadways. All stream crossings should be continually cleaned during all construction activities.

The area behind the checks and traps should not be constructed lower than the rock areas. To get the capacity needed in these areas, the areas behind the traps should be expanded by increasing the length and/or the width.

Many of the diversion channels and ditches have checks installed, but the checks are not installed from toe to crest; therefore, these channels are not stabilized. Need to stabilize all diversion channels and

ditches appropriately during construction to prevent erosion.

All areas that are left undisturbed for more than 7 days should be temporarily seeded following INDOT standard specifications for temporary seeding.

Describe corrective actions implemented since the last inspection:

910+50	910+50	Right	Remove sediment at silt fence. <b>-COMPLETE</b>
913+00	913+00	Right	Remove sediment at silt fence. <b>-COMPLETE</b>
929+00	932+50	Right	Slopes of Sediment Trap #3 not stabilized. <b>-COMPLETE</b>
932+50	932+50	Right	Sediment deposited on filter stone of sediment trap- <b>COMPLETE</b>
933+00	933+00	Left	Slopes of Sediment Basin #4 not stabilized. <b>-COMPLETE</b>
934+00	934+00	Left	Slopes of Sediment Basin #5 not stabilized. <b>-COMPLETE</b>
190+50	190+50	Right	Silt fence and rock berm connection needs maintenance. - <b>COMPLETE</b>
135+50	135+50	Left	Remove sediment deposit at sediment trap dam; rebuild rock dam (large amount of filter stone) <b>-COMPLETE</b>
132+00	137+00	Left	Rebuild check dams to specifications. Large amount of filter stone observed, water washed around sides of check dams- <b>COMPLETE</b>
1100+00	1100+00	Right	Bare dirt not stabilized at riprap. Repair rock berm. Remove sediment in pipe. <b>-COMPLETE</b>
197+00	197+00	Center	Silt fence not entrenched and section needs to be replaced. - <b>COMPLETE</b>
190+00	198+50	Right	Diversion channel and sediment trap slopes not stabilized. - <b>COMPLETE</b>
189+50	189+50	Right	Slopes of Sediment Trap not stabilized. <b>-COMPLETE</b>
199+00	200+00	Left	Sediment trap slopes not stabilized. <b>-COMPLETE</b>
137+00	137+00	Right	Check dam washed over, not built to specifications, built off ROW. <b>-COMPLETE</b>
173+50	173+50	Right	Slopes of Sediment Trap #33 not stabilized. <b>-COMPLETE</b>

**Part A: Erosion and Sediment Control BMP's Inspected**

BMP Type	Approximate Station		Survey Line: (e.g. Left, Right, Center)	BMP Maintenance or Corrective Action Needed (Include image file name, # of measures)	Noted on Previous Inspection (Y/N)
	From	To			
<b>SEGMENT 6</b>					
12	933+00	933+00	Left	Straw blown onto filter stone and stand pipe inlet at Sediment Basin #4; will not filter water/sediment proficiently.	N
12	934+00	934+00	Left	Straw blown onto filter stone and stand pipe inlet at Sediment Basin #5; will not filter water/sediment proficiently. (See Photo)	N
1	966+00	971+00	Left, Right	Check dams installed within diversion ditch but are not toe to crest; therefore the diversion channels are not stabilized.	Y
11	973+50	973+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	976+50	976+50	Left	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
1	980+00	985+25	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
1	982+50	985+00	Left	Check dams installed within diversion ditch but not toe to crest; therefore the diversion channel is not stabilized.	Y
11	985+00	985+00	Right	Sediment trap not constructed to specifications. The length	Y

				to width ratio is not 2:1.	
11	992+50	992+50	Right	Sediment trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	994+50	994+50	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
11	1000+00	1000+00	Right	Sediment traps on all 4 quadrants of temporary crossing not constructed to specifications. The length to width ratio is not 2:1.	Y
<b>SEGMENT 7</b>					
15	1039+00	1039+00	Left	Previous filter berm failure at jurisdictional stream. Sediment and rock observed in stream.	Y
15	1040+00	1040+00	Left	Repair rock berm at pipe inlet. (See Photo)	N
7	1046+00	1046+00	Right	<del>Filter stone deposited onto riprap of jurisdictional stream from previous failure of check dam.</del>	<del>N</del>
7	1049+00	1049+00	Right	Previous failure of check dams located at constructed jurisdictional ditch. Rock and sediment observed in stream off ROW.	Y
15	1052+00	1052+00	Right	Sediment deposited at wood chip berm. (See Photo)	N
15	1054+00	1054+25	Right	Sediment deposited at wood chip berm.	N
2,3,5,6	1057+00	1060+00	Right	Sediment deposited into riprap ditch; needs to be removed prior to stabilization. Slopes not stabilized.	N
11	1061+00	1061+00	Right	Sediment plume deposited into sediment trap; needs removal	N
7	1061+00	1065+00	Left	Check dams installed within ditch but not toe to crest; therefore the ditch is not stabilized. Slopes of ditch not stabilized.	Y
7	1061+00	1068+00	Left	Several check dams not built to spec (no weir) and failed. (See Photo)	N
11	1061+00	1061+00	Right	Previous sediment trap failure; sediment/rock observed in stream.	Y
15	1068+00	1070+00	Left	Wood chips located off-site.	Y
11	1070+75	1070+75	Left	Slopes of Sediment Trap #11 not stabilized.	Y
24	1080+50	1080+50	Right	Rock/sediment observed in stream.	Y
15	1080+50	1080+50	Left	Previous rain event, filter berm partially failed; rock and sediment in stream.	Y
25	1100+00	1100+00	Right	Remove sediment in pipe. (See Photo)	Y
22	1107+50	1107+50	Right	Liner fell into concrete washout; high pH water in contact with bare soil. Needs immediate maintenance. (See Photo)	N
24	1122+00	1122+50	Left	Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y
24	1122+00	1122+50	Left	Partial failure of temporary crossing at Indian Creek. Rock observed in stream channel.	Y
14	1124+00	1124+00	Center	Silt fence failure at stream; consider installing alternative erosion control measure.	Y
24	1135+00	1135+00	Center	Riprap observed in stream.	Y
7	1155+00	1155+00	Center	Rock and sediment observed in stream from previous rain event.	Y
15	1222+00	1222+00	Left	Dirt observed in riprap at pipe of jurisdictional stream. Filter cloth maintenance. (See Photo)	Y
15	1222+00	1222+00	Left	Sediment deposited at rock berm; removal required. (See Photo)	Y
15	1228+00	1228+00	Left	Sediment observed in stream off ROW; removal required.	Y
15	1240+00	1240+00	Left	Sediment deposited into stream and observed off ROW; removal required	Y
24	1250+00	1250+00	Right, Left, Center	Sediment deposited into stream. Removal required.	Y
<b>LINE C</b>					

1	206+00	209+00	Left	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	205+00	208+00	Center	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
1	206+00	208+00	Right	Diversion channel has some checks, but not toe to crest; therefore diversion channel is not stabilized.	Y
11	206+00	206+00	Left	Sediment Trap not constructed to specifications. Pit sloping away from rock dam and will not drain within the 48-72 hour storm event time period.	Y
11	202+50	202+50	Left	Sediment Trap increased, but still needs more capacity. The length to width ratio is not 2:1.	Y
14	202+00	202+00	Right	Silt fence on hill slope across ROW needs an outlet to prevent failure.	Y
11	202+00	202+00	Center	Temporary crossing sediment traps upslope 2 quadrants not constructed to specifications. The length to width ratio is not 2:1.	Y
14, 15	199+00	199+00	Center	The area adjacent along the east side of Carter Road is disturbed and not stabilized to prevent sediment on the roadway.	Y
24	189+50	189+50	Left	Maintain berms on either side of Indian Creek crossing. Maintain sediment deposition on crossing. Sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project.	Y
7	186+00	186+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
7	183+50	183+50	Right	Check dam capacity does not seem adequate for this area of drainage based on height.	Y
11	178+00	178+00	Right	Sediment Trap not constructed to specifications. The length to width ratio is not 2:1.	Y
1	175+00	177+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
24	174+00	174+00	Right	Sediment accumulation/trapping upon the temporary crossings is not authorized by the water quality permits for the project. Effective sediment control measures/methods are necessary at both sides of the crossing to prevent sediment from going onto crossing and potentially into stream.	Y
11	174+00	174+00	Right	Slopes of Sediment Trap #35 not stabilized.	Y
1	167+50	169+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	164+00	165+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	161+00	163+00	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	157+00	160+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
14	155+50	155+50	Right	Sediment deposited at silt fence. Silt fence maintenance.	N
15, 11	154+00	154+00	Right	Previous filter berm failures. Previous sediment trap failure. Sediment and rock observed in stream.	Y
7	154+00	154+00	Left	Bank failure held by filter cloth. Sediment deposited onto riprap of jurisdictional ditch.	Y
1	151+00	154+50	Right	Check dams installed within diversion channel, but not toe to crest; therefore, diversion channel is not stabilized.	Y
1	150+00	154+00	Left	Check dams installed within ditch, but not toe to crest; therefore, ditch is not stabilized.	Y
1	145+00	148+00	Right	Check dams not installed within ditch; therefore, ditch is not stabilized.	Y
15	144+00	144+00	Right	Sediment observed at top of rock berm at outlet end of	N

				pipe.	
20	144+00	144+00	Right	Stream undermining pipe at outlet end.	Y
1	140+00	142+50	Right	Check dams not installed within channel; therefore, diversion channel is not stabilized.	Y
14	140+00	140+50	Left	Silt fence not installed per specifications. Silt fence installed loose, not installed upslope to prevent sediment loss. (See Photo)	Y
2, 5	140+00	140+50	Left	Dirt berm not stabilized (ties into wood chip berm). Area between silt fence and berm not stabilized. (See Photo)	Y
12	138+00	138+00	Left	Sediment basin slopes not stabilized.	Y
7	132+00	137+00	Left	Check dams not installed toe to crest for stabilization; therefore large ruts have developed in the ditch line	Y
2, 5	132+00	132+00	Right	Slope not sufficiently stabilized along rock berm (See Photo)	Y

**Table of Types of Erosion and Sediment Control BMP's or Issues**

1	Diversion Interceptor	8	Check Dam, Traversable	15	Filter Berm	22	Concrete Washout
2	Temporary Seeding	9	Slope Drain	16	Filter Sock	23	Secondary Spill Containment
3	Permanent Sod or Seed	10	Splash Pad	17	Turbidity Curtain	24	Temporary Stream Crossing
4	Mulch (hydraulic or bonded fiber mulch)	11	Sediment Trap	18	Surface Roughening	25	Other:
5	Straw Mulch (blown/laid/crimped)	12	Sediment Basin	19	Vegetative Filter Strip	26	Other: Karst Features
6	Erosion Control Blankets	13	Retention Pond	20	Inlet/Outlet Protection	27	Other: Pipe arounds
7	Check Dam	14	Silt Fence	21	Construction entrance/exit	28	Other:

SEGMENT 6

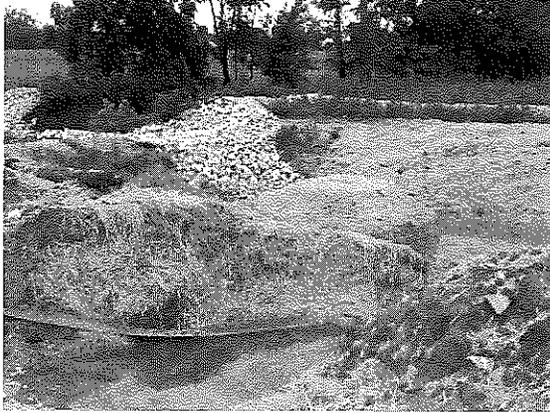


Photo 1-Straw blown onto filter stone and inlet stand pipe of sediment basin at Sta. 934+00

SEGMENT 7



Photo 1-Maintenance of filter berm at Sta. 1040+00



Photo 2-Sediment deposited at wood chip berm at Sta. 1052+00



Photo 3-Check dam maintenance at Sta. 1061+00-1065+00

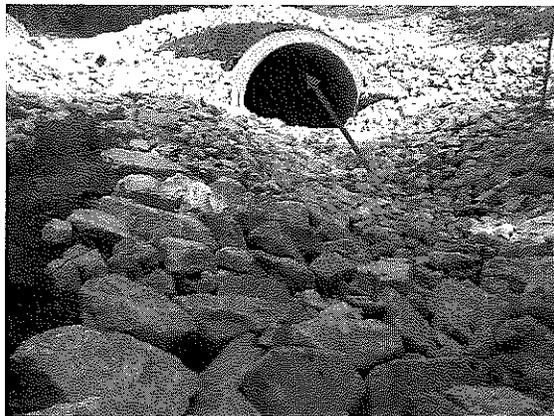


Photo 4-Sediment deposited in pipe at Sta. 1100+00

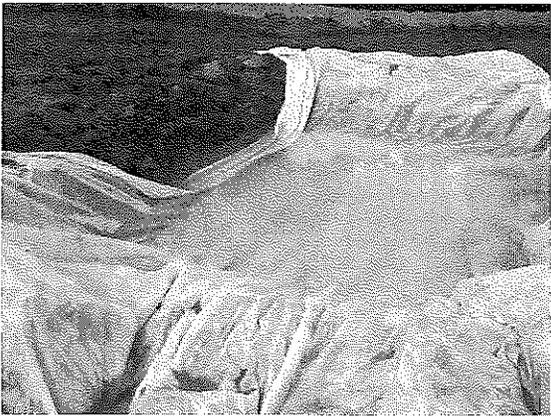


Photo 5-Concrete washout liner not stabilized and high pH water in contact with bare soil at Sta. 1107+50



Photo 6-Dirt observed on riprap and filter cloth maintenance at Sta. 1222+00

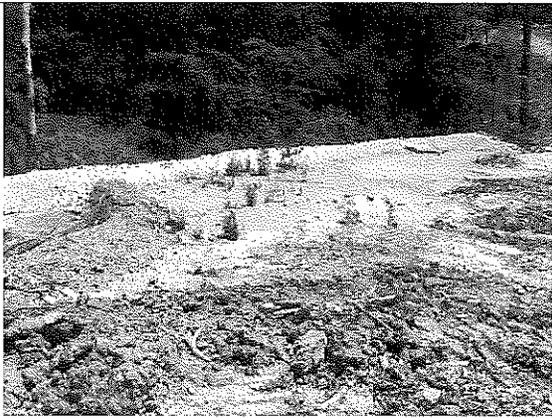


Photo 7-Remove sediment at rock berm at Sta.  
1222+00

LINE C

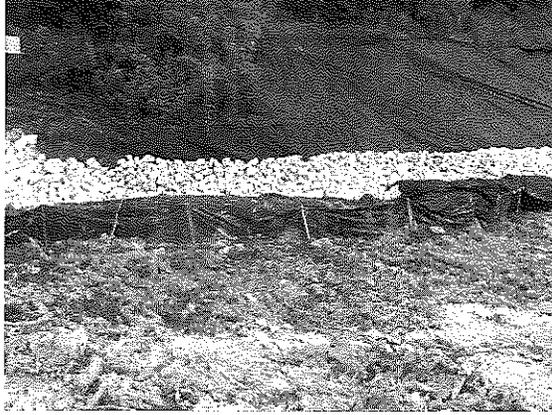


Photo 1-Silt fence not installed per specs and area not stabilized at Sta. 140+00-140+50

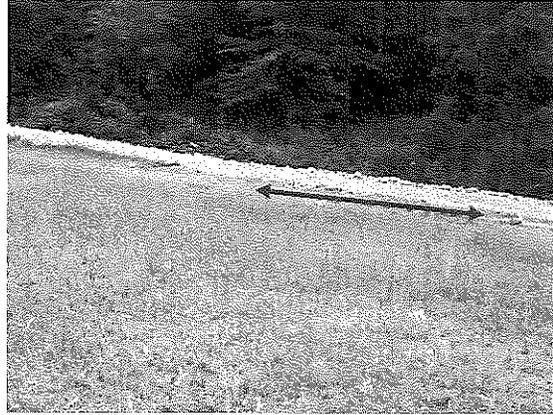


Photo 3-Area not sufficiently stabilized at rock berm at Sta. 132+00



Date 16-Jul-13  
 Contract IR-33739 Project I-69 Greene/Monroe  
 Force Account/Extra Work For: T&M Erosion Control - 2+ Intensity

Labor		Week End: June 29, 2013							Total	Rate	Total
Employee	Craft	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun			
Terry Gregory	Laborer								0	\$ 33.93	\$ -
									0	\$ 22.62	\$ -
									0	\$ 45.24	\$ -
Terry Gregory - Sunday Work	Laborer								0	\$ 22.62	\$ -
									0	\$ 39.75	\$ -
Jeff Woodard	Lab - Foreman								0	\$ 26.50	\$ -
									0	\$ 46.05	\$ -
Doug Walton	Oper - Foreman								0	\$ 30.70	\$ -
									0	\$ 46.88	\$ -
Clint Stroud	Supervisor								0	\$ 31.25	\$ -
									0	\$ 46.88	\$ -
Steve Parr	Supervisor								0	\$ 31.25	\$ -
									0	\$ 62.50	\$ -
Steve Parr - Sunday	Supervisor								0	\$ 31.25	\$ -
									0	\$ 36.18	\$ -
Larry Fitch	Lab - Foreman								0	\$ 24.12	\$ -
									0	\$ 43.88	\$ -
Norman Harris	Operator								0	\$ 29.25	\$ -
									0	\$ 35.43	\$ -
Keith Lester	Lab - Foreman								0	\$ 23.62	\$ -
									0	\$ 47.24	\$ -
Keith Lester - Sunday Work	Lab - Foreman								0	\$ 23.62	\$ -
									0	\$ 46.05	\$ -
Alfred Comer	Oper - Foreman								0	\$ 30.70	\$ -
									0	\$ 61.40	\$ -
Alfred Comer - Sunday	Oper-Foreman								0	\$ 30.70	\$ -
									0	\$ 36.18	\$ -
Kevin Hall	Lab - Foreman								0	\$ 24.12	\$ -
									0	\$ 43.88	\$ -
Stephen Sproles	Operator								0	\$ 29.25	\$ -
									0	\$ 58.50	\$ -
Stephen Sproles - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 33.93	\$ -
Michelle Engelsen	Laborer					2			2	\$ 22.62	\$ 45.24
									0	\$ 43.88	\$ -
Eugene Waggoner	Operator								0	\$ 29.25	\$ -
									0	\$ 58.50	\$ -
Eugene Waggoner - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 43.88	\$ -
Jack Farmer	Operator								0	\$ 29.25	\$ -
									0	\$ 58.50	\$ -
Jack Farmer - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 43.88	\$ -
Randell Grant	Operator								0	\$ 29.25	\$ -
									0	\$ 58.50	\$ -
Randell Grant - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 43.88	\$ -
Tim Thrasher	Operator								0	\$ 29.25	\$ -
									0	\$ 43.88	\$ -
Shane Granger	Operator					8	4		12	\$ 29.25	\$ 351.00
									0	\$ 58.50	\$ -
Shane Granger - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 33.93	\$ -
Rosemary Hawkins-Welch	Laborer								0	\$ 22.62	\$ -
									0	\$ 45.24	\$ -
Rosemary Hawkins-Welch - Sunday	Laborer								0	\$ 22.62	\$ -
									0	\$ 43.88	\$ -
Elliot Sandifer	Operator								0	\$ 29.25	\$ -
									0	\$ 58.50	\$ -
Elliot Sandifer - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 33.93	\$ -
Gerald Stockdale	Laborer								0	\$ 22.62	\$ -
									0	\$ 43.88	\$ -
Henry Matthews	Operator								0	\$ 29.25	\$ -
									0	\$ 43.88	\$ -
Brian Powell	Operator								0	\$ 29.25	\$ -
									0	\$ 58.50	\$ -
Brian Powell - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 43.88	\$ -
John Hall	Operator								0	\$ 29.25	\$ -
									0	\$ 58.50	\$ -
John Hall - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 43.88	\$ -
Evan Hunter	Operator								0	\$ 29.25	\$ -
									0	\$ 58.50	\$ -
Evan Hunter - Sunday	Operator								0	\$ 29.25	\$ -
									0	\$ 45.38	\$ -
Danny Patton	Mechanic								0	\$ 30.25	\$ -





Fuel Calculations							Gal/Hour	Fuel \$/Gal	Total
R648 - Morooka MST 2200VD Track Truck						0	5	\$4.10	\$ -
R7044 - IHI IC-10						0	5	\$4.10	\$ -
RC0849-T - Excavator PC200						0	8	\$4.10	\$ -
RCC054 - Excavator Cat 345						0	12	\$4.10	\$ -
RCC3070 - IHI IC75 Tracked Dump Truck						0	5	\$4.10	\$ -
RMU2401 - Kawasaki Mule 610						0	2	\$3.75	\$ -
RMU2406 - Kawasaki Mule 610						0	2	\$3.75	\$ -
RMU2407 - Kawasaki Mule 610						0	2	\$3.75	\$ -
RPAC1291 - Excavator Cat 320C			8			8	8	\$4.10	\$ 262.40
RSPN901 - Excavator Cat 320B						0	8	\$4.10	\$ -
RC0851-T Excavator Komatsu PC200						0	8	\$4.10	\$ -
RC0827-G Dozer Komatsu D-51 PX						0	10	\$4.10	\$ -
REAG53 Excavator Cat 320CL						0	8	\$4.10	\$ -
R647 Morooka MST 2200VD Track Truck						0	5	\$4.10	\$ -
RKJ61138 Dozer Cat D6T LGP						0	10	\$4.10	\$ -
RPAB2032A Excavator Cat 320LC						0	8	\$4.10	\$ -
R641 Morooka MST 2200VD Track Truck						0	5	\$4.10	\$ -
AD03 - Excavator Cat 325C						0	10	\$4.10	\$ -
RB49609 - Rosco Broom						0	8	\$4.10	\$ -
RPAC128 - Excavator Cat 320						0	8	\$4.10	\$ -
							Total	\$	262.40



Date 16-Jul-13  
 Contract IR-39739 Project I-69 Greene/Monroe  
 Force Account/Extra Work For: T&M Erosion Control - 2'+ Intensity

Employee	Craft	Week End: July 6, 2013							Total	Rate	Total
		30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul			
Brion McReiff	Laborer		12	12	10				0 \$ 33.93	\$ -	
									34 \$ 22.62	\$ 769.08	
									0 \$ 33.93	\$ -	
Dessa Murphy	Laborer		12		10				22 \$ 22.62	\$ 497.64	
									0 \$ 39.75	\$ -	
Jeff Woodard	Lab - Foreman		8	8	8				24 \$ 26.50	\$ 636.00	
									0 \$ 46.05	\$ -	
Doug Walton	Oper - Foreman								0 \$ 30.70	\$ -	
									0 \$ 46.05	\$ -	
James Wallace	Oper - Foreman		7	8	6.5				21.5 \$ 30.70	\$ 660.05	
									0 \$ 46.88	\$ -	
Clint Stroud	Supervisor		8	8	8				24 \$ 31.25	\$ 750.00	
									0 \$ 46.88	\$ -	
Steve Parr	Supervisor		8	8	6				22 \$ 31.25	\$ 687.50	
									0 \$ 62.50	\$ -	
Steve Parr - Sunday	Supervisor								0 \$ 31.25	\$ -	
									0 \$ 36.18	\$ -	
Larry Fitch	Lab - Foreman				8				8 \$ 24.12	\$ 192.96	
									0 \$ 43.88	\$ -	
Jeremy Shorther	Operator		4						4 \$ 29.25	\$ 117.00	
									0 \$ 35.43	\$ -	
Keith Lester	Lab - Foreman		13.5	13	10				36.5 \$ 23.62	\$ 862.13	
									0 \$ 47.74	\$ -	
Keith Lester - Sunday Work	Lab - Foreman								0 \$ 23.62	\$ -	
									0 \$ 46.05	\$ -	
Alfred Corner	Oper - Foreman								0 \$ 30.70	\$ -	
									0 \$ 61.40	\$ -	
Alfred Corner - Sunday	Oper - Foreman								0 \$ 30.70	\$ -	
									0 \$ 36.18	\$ -	
Kevin Hall	Lab - Foreman		12	12	7				31 \$ 24.12	\$ 747.72	
									0 \$ 43.88	\$ -	
Stephen Sproles	Operator		8						8 \$ 29.25	\$ 234.00	
									0 \$ 58.50	\$ -	
Stephen Sproles - Sunday	Operator								0 \$ 29.25	\$ -	
									0 \$ 33.93	\$ -	
Michelle Engelsen	Laborer		12	11.5	10				33.5 \$ 22.62	\$ 757.77	
									0 \$ 43.88	\$ -	
Eugene Waggoner	Operator		8	8	6				22 \$ 29.25	\$ 643.50	
									0 \$ 58.50	\$ -	
Eugene Waggoner - Sunday	Operator								0 \$ 29.25	\$ -	
									0 \$ 43.88	\$ -	
Douglas Cobb	Operator		8	8	8				24 \$ 29.25	\$ 702.00	
									0 \$ 43.88	\$ -	
Randy Newkirk	Operator		8		8				16 \$ 29.25	\$ 468.00	
									0 \$ 43.88	\$ -	
Douglas Crooks	Operator		8	8	2.5				18.5 \$ 29.25	\$ 541.13	
									0 \$ 43.88	\$ -	
Brian Truelove	Operator		8	4	2				14 \$ 29.25	\$ 409.50	
									0 \$ 43.88	\$ -	
Tim Thrasher	Operator								0 \$ 29.25	\$ -	
									0 \$ 43.88	\$ -	
Shane Granger	Operator		8	8	8				24 \$ 29.25	\$ 702.00	
									0 \$ 58.50	\$ -	
Shane Granger - Sunday	Operator								0 \$ 29.25	\$ -	
									0 \$ 33.93	\$ -	
Rosemary Hawkins-Welch	Laborer								0 \$ 22.62	\$ -	
									0 \$ 33.93	\$ -	
Gregory Odle	Laborer		11	12	8				31 \$ 22.62	\$ 701.22	
									0 \$ 43.88	\$ -	
Jack Herdin	Operator		8	8	8				24 \$ 29.25	\$ 702.00	
									0 \$ 43.88	\$ -	
Michael Gregory	Operator		8						8 \$ 29.25	\$ 234.00	
									0 \$ 33.93	\$ -	
Gerald Stockdale	Laborer		11	12	8				31 \$ 22.62	\$ 701.22	
									0 \$ 43.88	\$ -	
Henry Matthews	Operator								0 \$ 29.25	\$ -	
									0 \$ 43.88	\$ -	
Brian Powell	Operator								0 \$ 29.25	\$ -	
									0 \$ 43.88	\$ -	
Cody Pirtle	Operator			8					8 \$ 29.25	\$ 234.00	
									0 \$ 43.88	\$ -	
John Hall	Operator		8						8 \$ 29.25	\$ 234.00	
									0 \$ 58.50	\$ -	
John Hall - Sunday	Operator								0 \$ 29.25	\$ -	
									0 \$ 43.88	\$ -	
Evan Hunter	Operator		8	5					13 \$ 29.25	\$ 380.25	
									0 \$ 58.50	\$ -	
Evan Hunter - Sunday	Operator								0 \$ 29.25	\$ -	
									0 \$ 45.38	\$ -	
Danny Patton	Mechanic								0 \$ 90.75	\$ -	
									0 \$ 43.88	\$ -	
Gary Harris	Operator		6.5	8	6.5				21 \$ 29.25	\$ 614.25	
									0 \$ 43.88	\$ -	
Larry Short	Mechanic								0 \$ 29.25	\$ -	
									0 \$ 58.50	\$ -	
Larry Short - Sunday	Mechanic								0 \$ 29.25	\$ -	
									0 \$ 43.88	\$ -	
Gary Cooper	Operator		8	4	2				14 \$ 29.25	\$ 409.50	
									0 \$ 43.88	\$ -	
Michael Lee	Operator		8	8	8				24 \$ 29.25	\$ 702.00	
									0 \$ 33.93	\$ -	
Danny Richardson	Laborer		10.5	12.5	9				32 \$ 22.62	\$ 723.84	
									0 \$ 46.88	\$ -	
James Hall	Supervisor		8	8	4				20 \$ 31.25	\$ 625.00	
									0 \$ 43.88	\$ -	



Materials 109.04 ( c )  
 Materials Week Ending  
 (Attach Copies of Invoices)

June 29, 2013

Total Materials  
 12% x Line (18)  
 Grand Total Materials Line (18) + (19)

(18)  
 (19)  
 (20)

Equipment 109.04 (d)

Contractor Owned Equipment Model & Year	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	Total	Blue Book Rate Monthly x 176 Hr	Adjusted Rate Age & Region	Extension
	S	M	T	W	T	F	S				
1023-Komatsu Backhoe WB140-2N - 2006								0	\$ 36.53		\$ -
1517 - Broce Broom RCT-350 - 2009								0	\$ 29.27		\$ -
4010 - Komatsu PC400 Excavator		9	4	2				15	\$ 201.90		\$ 3,028.50
4006 - Excavator PC400 - 2007								0	\$ 202.90		\$ -
4011 - Excavator PC450 - 2011		11	12	11				34	\$ 202.90		\$ 6,898.60
4015 - Excavator Cat 346DL		12	12	7				31	\$ 202.90		\$ 6,289.90
4014 - Excavator Cat 346DL		4						4	\$ 202.90		\$ 811.60
9002 - Supervisor Pickup (Various)		52.5	53.5	38				144	\$ 25.00		\$ 3,600.00
Mechanics Truck								0	\$ 26.52		\$ -
4012 - Excavator PC450 - 2011		11						11	\$ 202.90		\$ 2,231.90
5418 - Forklift CAT TH680B - 2004								0			\$ -
9016 - Pickup - Chevy 2005		8	8	7				23	\$ 16.61		\$ 382.03
9023 - Pickup - Chevy 1997		2	2					4	\$ 16.61		\$ 66.44
9025 - Pickup - Chevy Silverado - 2005								0	\$ 16.61		\$ -
9089 - Pickup - 2006 Ford F150 - 2006		13	13	9.5				35.5	\$ 16.61		\$ 589.66
9835 - Kubota RTV900 Utility Vehicle - 2011		8	8	8				24	\$ 12.00		\$ 288.00
9834 - Kubota RTV900 Utility Vehicle		9	10	6.5				25.5	\$ 12.00		\$ 306.00
9882 - Kubota RTV900W Utility Vehicle - 2007								0	\$ 12.00		\$ -
9891 - Kubota RTV900 Utility Vehicle - 2011								0	\$ 12.00		\$ -
3509 - Dozer - Komatsu D39EX - 2009								0	\$ 59.03		\$ -
4003 - Excavator - Cat 325C - 2002								0	\$ 117.67		\$ -
R648 - Morooka MST 2200VD Track Truck								0			\$ -
R7044 - IHI IC-10								0			\$ -
RCC0368 Cat D6T LGP Dozer		9		9.5				18.5			\$ -
RCC049-T - Excavator PC200								0			\$ -
RCC054 - Excavator Cat 345								0			\$ -
RCC3070 - IHI IC75 Trackad Dump Truck								0			\$ -
RMU2401 - Kawasaki Mule 610		13	13	9.5				35.5			\$ -
RMU2406 - Kawasaki Mule 610								0			\$ -
RMU2407 - Kawasaki Mule 610		11.5	12	8				31.5			\$ -
RPAC1291 - Excavator Cat 320C		12	11	10				33			\$ -
RSPN901 - Excavator Cat 320B								0			\$ -
RC0951-T Excavator Komatsu PC200								0			\$ -
RC0627-G Dozer Komatsu D-51 PX								0			\$ -
REAG53 Excavator Cat 320CL								0			\$ -
REAG794 - Cat 320 Excavator		11	12	9				32			\$ -
R647 Morooka MST 2200VD Track Truck								0			\$ -
RKJ61139 Dozer Cat D6T LGP		11						11			\$ -
RPAB2032A Excavator Cat 320LC								0			\$ -
R641 Morooka MST 2200VD Track Truck								0			\$ -
R478 - Morooka 2200 VD Track D		10	4	2				16			\$ -
A003 - Excavator Cat 325C								0			\$ -
RCC922 - Cat D6T LGP Dozer		10	10					20			\$ -
R643 - D8T Dozer		11		8				19			\$ -
R426		7.5	11.5	8				27			\$ -
RCC068 - Cat 349 - Excavator		12	13	9.5				34.5			\$ -
R210179 - Volvo EC480 Excavator		13	12	4				29			\$ -
RCL0347 - Hydrema 912HM Truck		10	4	2				16			\$ -
RB49809 - Roseco Broom								0			\$ -
RPAC128 - Excavator Cat 320								0			\$ -

Total Contractor Owned Equipment  
 Rented Equipment (Attach Daily Copies of Invoices)  
 Fuel, Lubricants and Transportation Costs  
 Total Lines (21), (22), (23)  
 12% x Line (24)  
 Grand Total Equipment Lines (24) + (25)

\$ 24,492.63 (21)  
 (22)  
 \$ 5,050.95 (23)  
 \$ 29,543.58 (24)  
 \$ 3,545.23 (25)  
 \$ 33,088.80 (26)





Date 16-Jul-13  
 Contract IR-33739 Project I-69 Greene/Monroe  
 Force Account/Extra Work For: T&M Erosion Control - 2+ Intensity

Employee	Craft	Week End: July 13, 2013											Total	Rate	Total	
		7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul								
Brion Mitchell	Laborer									9				0	\$ 33.93	\$ 203.58
Dessa Murphy	Laborer									9	12	12		0	\$ 33.93	\$ 746.46
Shauntrell Watts	Laborer									9	12	12		0	\$ 33.93	\$ 746.46
Richard Winters	Laborer									9	12	12		0	\$ 33.93	\$ 746.46
Jeffrey Staggs	Laborer									9	12	12		0	\$ 33.93	\$ 746.46
Adam King	Laborer									9	12	12		0	\$ 33.93	\$ 746.46
Gary Holt	Laborer									9	12	12		0	\$ 33.93	\$ 746.46
Robert Denton	Laborer									9	12	12		0	\$ 33.93	\$ 746.46
Jeff Woodard	Lab - Foreman			5					4					9	\$ 26.50	\$ 238.50
Doug Walton	Oper - Foreman			8		8				8		8		32	\$ 30.70	\$ 982.40
James Wallace	Oper - Foreman													0	\$ 46.88	\$ -
Clint Stroud	Supervisor			8										8	\$ 31.25	\$ 250.00
Steve Parr	Supervisor			5					4					9	\$ 31.25	\$ 281.25
Steve Parr - Sunday	Supervisor													0	\$ 62.50	\$ -
Larry Fitch	Lab - Foreman			12						8				20	\$ 24.12	\$ 482.40
Jeremy Shorther	Operator											8		8	\$ 29.25	\$ 234.00
Keith Lester	Lab - Foreman			5		4			6.5		10	8		33.5	\$ 23.62	\$ 791.27
Keith Lester - Sunday Work	Lab - Foreman													0	\$ 47.24	\$ -
Alfred Comer	Oper - Foreman								4.5					4.5	\$ 30.70	\$ 138.15
Alfred Comer - Sunday	Oper - Foreman													0	\$ 61.40	\$ -
Kevin Hall	Lab - Foreman									9				9	\$ 24.12	\$ 217.08
Stephen Sproles	Operator													0	\$ 29.25	\$ -
Stephen Sproles - Sunday	Operator													0	\$ 58.50	\$ -
Michelle Engelsen	Laborer											8		8	\$ 22.62	\$ 180.96
Gayle Combs	Laborer			12		12				6	4			34	\$ 22.62	\$ 769.08
Eugene Waggoner	Operator									5				5	\$ 29.25	\$ 146.25
Eugene Waggoner - Sunday	Operator													0	\$ 58.50	\$ -
Douglas Cobb	Operator									4				4	\$ 29.25	\$ 117.00
Randy Newkirk	Operator													0	\$ 43.88	\$ -
Douglas Crooks	Operator				5					4				9	\$ 29.25	\$ 263.25
Brian Truelove	Operator													0	\$ 43.88	\$ -
Tim Thrasher	Operator													0	\$ 29.25	\$ -
Shane Granger	Operator													0	\$ 43.88	\$ -
Shane Granger - Sunday	Operator													0	\$ 29.25	\$ -
Rosemary Hawkins-Welch	Laborer			12		12				6	3			33	\$ 22.62	\$ 746.46
Gregory Odle	Laborer			12						8	12	8		40	\$ 22.62	\$ 904.80
Timothy Reynolds	Laborer											3		3	\$ 33.93	\$ 101.79
Levi Wall	Laborer											4	12	16	\$ 22.62	\$ 361.92
Jack Hardin	Operator									4				4	\$ 29.25	\$ 117.00
Michael Gregory	Operator													0	\$ 43.88	\$ -
Gerald Stockdale	Laborer			12						8	12	8		40	\$ 22.62	\$ 904.80
Henry Matthews	Operator													0	\$ 43.88	\$ -
Brian Powell	Operator													0	\$ 29.25	\$ -
Cody Pirtle	Operator													0	\$ 43.88	\$ -
John Hall	Operator			8						4				12	\$ 29.25	\$ 351.00
John Hall - Sunday	Operator													0	\$ 58.50	\$ -
Evan Hunter	Operator													0	\$ 29.25	\$ -

Evan Hunter - Sunday	Operator									0	\$ 29.25	\$ -
Danny Patton	Mechanic									0	\$ 45.88	\$ -
Gary Harris	Operator			8		5				13	\$ 29.25	\$ 380.25
Larry Short	Mechanic									0	\$ 43.88	\$ -
Larry Short - Sunday	Mechanic									0	\$ 29.25	\$ -
Gery Cooper	Operator					4				4	\$ 29.25	\$ 117.00
Michael Lee	Operator					4		8	12	24	\$ 29.25	\$ 702.00
Danny Richardson	Laborer									0	\$ 33.93	\$ -
Jesse Lee	Laborer					8		12	12	32	\$ 22.62	\$ 723.84
Travis Sanders	Laborer					8		3		11	\$ 22.62	\$ 248.82
James Lee	Laborer							12	12	24	\$ 22.62	\$ 542.88
James Hall	Supervisor					5				5	\$ 31.25	\$ 156.25
John Bray	Operator									0	\$ 43.88	\$ -
John Bray - Sunday	Operator									0	\$ 58.50	\$ -
Jason Brown	Laborer					8.5				8.5	\$ 22.62	\$ 192.27
Justin Toney	Laborer					8.5				8.5	\$ 22.62	\$ 192.27
Patrick Moore	Operator									0	\$ 43.88	\$ -
Doug MacElroy	Operator									0	\$ 29.25	\$ -
Jason Newton	Oper-Foreman									0	\$ 45.30	\$ -
										0	\$ 30.20	\$ -

Total Labor											\$	17,229.81 (1)
Fica	7.65	% x Line (1)									\$	1,318.08 (2)
												711

Fringes								Total Hours	
Laborers	498	Hrs x	\$ 11.83	=	\$ 5,891.34				
Supervisor	22	Hrs x	\$ 16.16	=	\$ 355.52				
Labor Foreman	71.5	Hrs x	\$ 11.83	=	\$ 845.85				
Operator Foreman	36.5	Hrs x	\$ 16.16	=	\$ 589.84				
Operators	83	Hrs x	\$ 16.16	=	\$ 1,341.28				
Carpenters		Hrs x	\$ 16.54	=	\$ -				
Teamsters		Hrs x		=	\$ -				
Total Hours	711								

Worker's Compensation	10.09 % x Line (1)	\$ 9,023.83 (3)
Bodily Injury Insurance	1.19 % x Line (1)	\$ 1,738.49 (4)
Property Damage Insurance	3.21 % x Line (1)	\$ 205.03 (5)
State Unemployment	7.992 % x Line (1)	\$ 553.08 (6)
Federal Unemployment	1.5 % x Line (1)	\$ 1,377.01 (7)
		\$ 258.45 (8)

Travel Allowance or Subsistence (Note #3)												(9)
Total Lines 1, 2, 3, 4, 5, 6, 7, 8, & 9											\$	31,703.77 (10)
20% x Line (10)											\$	6,340.75 (11)
Grand Total Labor Lines (10) + (11)											\$	38,044.52 (12)





**ATTACHMENT D**

**Photos representing materials removed from and being replaced in Karst feature located in Indian Creek Township**



-Large pile of debris and unsuitable material recently excavated from a Karst feature. Due to the vicinity of swallet 4-0181, this likely have come from this feature during the exploration.



-Various stockpiles of clean treatment materials



-Swallet protection on all sides as well as the aggregate envelope can be seen.



-Larger size rip rap in the double sinkhole feature. Rip rap appears to be clean and clear of dirt particles. Please note filter berms on either side of the slopes protecting the karst feature from any runoff of the hills and the jurisdiction stream below from any sediment laden water.

ATTACHMENT E

1993 Karst MOU

I-69 Section 4 Karst MOU



EXECUTIVE DOCUMENT SUMMARY

State Form 41221 (R10/4-06)

Received

Instructions for completing the EDS and the Contract process.

FEB 23 2012

1. Please read the guidelines on the back of this form.
2. Please type all information.
3. Check all boxes that apply.
4. For amendments / renewals, attach original contract.
5. Attach additional pages if necessary.

IDA Contracts

4116 DS

1. EDS Number: A249-12-320574	2. Date prepared: 2/6/2012
----------------------------------	-------------------------------

3. CONTRACTS & LEASES

<input type="checkbox"/> Professional/Personal Services	<input type="checkbox"/> Contract for procured Services
<input type="checkbox"/> Grant	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Lease	<input type="checkbox"/> License Agreement
<input type="checkbox"/> Attorney	<input type="checkbox"/> Amendment# _____
<input type="checkbox"/> MOU	<input type="checkbox"/> Renewal # _____
<input type="checkbox"/> QPA	<input checked="" type="checkbox"/> Other <u>DRAINAGE</u>

FISCAL INFORMATION

4. Account Number: 63200-	5. Account Name: INDOT DOT Fund
6. Total amount this action: \$0.00	7. New contract total: 0.00
8. Revenue generated this action: \$0.00	9. Revenue generated total contract: \$0.00
10. New total amount for each fiscal year:	
Year 2012	\$0.00
Year _____	\$ _____
Year _____	\$ _____
Year _____	\$ _____

TIME PERIOD COVERED IN THIS EDS

11. From (month, day, year): 2/29/2012	12. To (month, day, year): 2/28/2018
13. Method of source selection:	
<input type="checkbox"/> Bid/Quotation	<input type="checkbox"/> Emergency
<input checked="" type="checkbox"/> Negotiated	<input type="checkbox"/> Special Procurement
<input type="checkbox"/> RFP# _____	<input type="checkbox"/> Other (specify) _____

AGENCY INFORMATION	
14. Name of agency: Indiana Dept of Transportation	15. Requisition Number:

16. Address: Dept Of Transportation Contract Administration Divisi 100 N SENATE AVE RM N725 INDIANAPOLIS, IN 46204
--

AGENCY CONTACT INFORMATION	
17. Name: Sandra Flum	18. Telephone #: 317/650-9237
19. E-mail address: sflum@indot.in.gov	

COURIER INFORMATION	
20. Name: Harriet Briggs	21. Telephone #: 317-232-4005
22. E-mail address: hbriggs@indot.in.gov	

VENDOR INFORMATION	
23 Vendor ID # 0000102961	
24. Name: INDIANA NATURAL RESOURCES	25. Telephone #: XXXXXXXXXXXX

26. Address: 402 W. WASHINGTON ST. RM 266W INDIANAPOLIS, IN 46204	
--	--

27. E-mail address: xxxxxxxxxxxx	28. Is the vendor registered with the Secretary of State? (Out of State Corporations, must be registered) Yes <input checked="" type="checkbox"/> No
----------------------------------	--

29. Primary Vendor: M/WBE Minority: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Women: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	30. If yes, list the %: Minority: _____ % Women: _____ %
--	--

31 Sub Vendor: M/WBE Minority: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Women: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32. If yes, list the %: Minority: _____ % Women: _____ %
---	--

33. Is there Renewal Language in the document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	34. Is there a "Termination for Convenience" clause in the document? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

35. Will the attached document involve data processing or telecommunications systems(s)?	Yes: IOT or Delegate has signed off on contract
--	---

36. Statutory Authority (Cite applicable Indiana or Federal Codes): IC 32-23-5
---

37. Description of work and justification for spending money. (Please give a brief description of the scope of work included in this agreement.) INDOT, DNR, IDEM and USFWS wish to cooperate in the identification study and treatment of drainage in karst regions related to the construction of Section 4 of I-69.
---

38. Justification of vendor selection and determination of price reasonableness: Negotiated as reasonable and fair.
--

39. If this contract is submitted late, please explain why: (Required if more than 30 days late.)
---

RECEIVED

MAR 02 2012

OAG-ADVISORY

40. Agency fiscal officer or representative approval <i>[Signature]</i>	41. Date Approved 2-21-12	42. Budget agency approval <i>[Signature]</i>	43. Date Approved 2/29/12
44. Attorney General's Office approval DSS	45. Date Approved 3/9/12	46. Agency representative receiving from AG	47. Date Approved



I-69 Section 4 Karst Agreement

EDS No. A249-12-320574

This Agreement is made and entered into this 9<sup>th</sup> day of March, 2012 between the Indiana Department of Transportation (INDOT), the Indiana Department of Natural Resources (IDNR), the Indiana Department of Environmental Management (IDEM) and the U.S. Fish and Wildlife Service (USFWS) per the October 1993 Karst Memorandum of Understanding (Karst MOU) (~~Attachment A~~).

Whereas, INDOT, IDNR, IDEM and the USFWS wish to cooperate in the identification, study and treatment of drainage in karst regions related to the construction of Section 4 of I-69, and

Whereas, INDOT has complied with Stipulations 1 - 4 of the 1993 Karst MOU in developing Section 4 of I-69 as described in Items 1 - 4 below:

1. Stipulation 1: The locations of karst features and their relationship, prior to proposed alterations or construction, have been determined and are documented in I-69 Evansville to Indianapolis, Tier 2 Studies, Survey of Karst Features Report Section 4, US 231 to SR 37 (June, 2010) (Karst Report) and the Addendum #1 to the Karst Report (May 11, 2011).
2. Stipulation 2: Public and private information sources have been researched, karst features have been field checked, and a draft Karst Report (referenced in #1 above) was prepared. The Karst Report includes photographs, maps, drainage areas, land use, dye tracing results, and pollutant load estimates.
3. Stipulation 3: IDNR, IDEM, and USFWS have reviewed the Karst Report and Addendum #1 to the Karst Report and provided comments on the findings.
4. INDOT has begun to formulate appropriate measures to offset unavoidable impacts to karst features. These measures are included in the Karst Report (referenced in #1 above).

Whereas, Section 4 of I-69 has been divided into nine (9) construction Segments and this Agreement applies to Segments 2 - 9, which are located in karst terrain (~~Attachment B~~), and

Whereas, the purpose of this Agreement is to satisfy, for Section 4 of I-69, Stipulation #10 of the 1993 Karst MOU, and

Whereas, this Agreement also provides additional information or clarification on the following: 1) describes how the location of sinkholes will be provided to IDEM, per Stipulation 12 of the 1993 Karst MOU; 2) describes additional pre-construction karst studies, per Stipulation 1 of the 1993 Karst MOU; 3) presents measures to offset karst impacts, per Stipulations 4 and 10 of the 1993 Karst MOU; 4) provides detail on the discovery of karst features during construction, per Stipulation 14 of the 1993 Karst MOU; 5) provides further detail on the implementation of the monitoring and maintenance plan, per Stipulation 8 of the 1993 Karst MOU; and 6) provides details for agency staff for construction and maintenance monitoring, per Stipulation 13 of the 1993 Karst MOU;

Therefore, in consideration of the terms and conditions set forth herein, the INDOT, IDNR, IDEM, and USFWS agree as follows:

1. Location and Nature of Sinkholes -- INDOT will provide this information in the form of maps of karst features, positive dye trace inputs and outputs, and affected feature drainage areas. Maps will be provided with an aerial photograph base map and a U.S.G.S. topographic base map. This information will

be provided with the detailed design and karst feature mitigation measure information discussed in Term and Condition #3, below. IDEM will provide this information to the appropriate local authorities and Hazmat teams.

2. Pre-construction Karst Studies - Pre-construction studies, conducted by INDOT or their consultants, may identify previously unknown karst features or hydrological connectivity to the proposed right-of-way. Such studies include, but are not limited to: geotechnical surveys, video records from geotechnical boreholes, geophysical surveys (electro resistivity, etc.), and dye tracing. The results of this information will be used in the Measures to Offset Karst Impacts in Term and Condition #3 below. The results of these pre-construction studies will be provided to the IDNR, IDEM, and USFWS prior to construction at a specific feature.
3. Measures to Offset Karst Impacts - The general mitigation approach for karst features in Section 4 of I-69 is shown in the Anticipated Karst Feature Design Scenarios and Remediation Guidance in Attachment C of this Agreement. Karst Areas of Importance, as identified in the Section 4 Survey of Karst Features Report may require site specific karst design scenarios. Detailed design and mitigation measures for karst features for each construction contract will be provided to the IDNR, IDEM, and USFWS for review and comment prior to construction for that area. The detailed design and mitigation measures will include but are not limited to: the results of pre-construction karst-related studies, design plans, maps, and design meeting minutes documenting mitigation and design decisions made. This information will be provided by the INDOT Environmental Services Office, or its representative, to the IDNR Division of Fish and Wildlife, IDEM Ground Water Section, and the USFWS Bloomington Field Office. The information will be in either hard copy or electronic (CD, DVD, e-mail or ftp site) format; and will be mailed or hand delivered to the IDNR, IDEM, and USFWS. The IDNR, IDEM, and USFWS will be invited to field meetings for each construction contract to review karst features and proposed treatment measures.

IDNR, IDEM, and USFWS will respond with comments within two (2) weeks of receiving the detailed design and karst feature mitigation measure information package for each construction contract in Section 4. Comments may be provided via a hard copy letter format or e-mail. INDOT will address agency comments on the karst feature mitigation measures. If INDOT determines an agency request cannot be reasonably and feasibly incorporated into the design plans, an explanation will be provided to the agency. INDOT will provide responses to agency comments within two (2) weeks of receiving agency comments on a construction contract. Any outstanding concerns will be resolved at a follow up meeting with INDOT, IDNR, IDEM, and USFWS.

4. Previously Unidentified Features - If a previously unidentified karst feature is discovered during construction, construction personnel will be required to immediately inform the Project Engineer on site, who will then inform the INDOT Environmental Services Office. Work will stop in that area until an agreement is reached with the Karst MOU signatory agencies. INDOT will develop a proposed treatment measure for the karst feature and provide this to the Karst MOU signatory agencies. Per the Karst MOU, a two (2) working days response time is needed from the resource agencies to provide comments on the proposed treatment measure. A Threatened and Endangered Species (TES) training DVD, which includes this information, will be developed and required for all on-site construction personnel, including INDOT and contractor personnel, in karst areas.

5. Monitoring and Maintenance Plan - A Monitoring and Maintenance Plan will be developed for each construction contract and provided to the IDNR, IDEM, and USFWS for review and comment prior to construction. IDNR, IDEM, and USFWS will have a 30-day comment period for this Plan. The Monitoring and Maintenance Plan will include, but is not limited to, the following information:
- a. Water Quality Sampling – Water quality sampling will occur in three (3) phases:
    - i. Phase 1: Baseline Sampling: INDOT, or its representative, will conduct baseline water quality sampling at selected karst features within that construction contract area prior to construction (baseline conditions). Water quality sampling will focus on the Areas of Importance identified in the Section 4 Survey of Karst Features Report (page 110) and karst features with known hydrological connectivity to the project right-of-way. The parameters to be sampled are listed in ~~Attachment D~~. The results of the baseline sampling will be provided to the IDNR, IDEM, and USFWS for their information. Any remediation standards will take baseline sampling results into consideration.
    - ii. Phase 2: Sampling During Construction: The same karst features surveyed during the baseline sampling will be sampled during construction. Samples will be collected quarterly (4 times per year) during construction. In addition, water quality sampling will be conducted at the inputs and outputs of karst treatment measures, once installed, to determine the effectiveness of the treatment. The parameters to be sampled are listed in Attachment D.
    - iii. Phase 3: Sampling Post Construction: Water quality sampling will continue for a total of (6) years post construction. The same karst features surveyed during the baseline sampling will be sampled after construction. In addition, water quality sampling will be conducted at the inputs and outputs of karst water quality treatment measures, once installed, to determine the effectiveness of the treatment. The parameters to be sampled are listed in Attachment D. Samples will be collected quarterly (4 times per year) for one (1) year after construction. Samples will be collected twice per year, after the first year post construction, for five (5) consecutive years.
  - b. Cave Fauna Sampling - Areas that were sampled for cave fauna prior to construction will be sampled for cave fauna three (3) years after the Section 4 construction to determine if there are any changes in the faunal community.
  - c. Low Salt/No Spray Maintenance Standard Operating Procedures (SOP)/Signage – A Low Salt/No Spray SOP will be developed and included in the Monitoring and Maintenance Plan. A Low Salt/No Spray signing strategy has been developed for Section 4. Low Salt/No Spray signs (see Attachment E) will be installed starting at approximately Taylor Ridge Road and ending at SR 37 with sign at every 3 miles in between for northbound and southbound I-69 and one sign at the entrance ramps to I-69 at all three interchanges in the karst area (SR 45, County Line, SR 37). Signs stating “Report all Spills to 1-888-233-7745” (~~see Attachment E~~) (note this is the IDEM toll-free spill line phone number) will be placed in between the Low Salt/No Spray signs. The “Groundwater” signs will alert the public to the fact that all types of spills are potentially hazardous to the karst environment.
  - d. Karst Feature Erosion/Sediment Control Reviews - Karst feature mitigation measures will be installed early in the construction process to protect features from construction related water

quality impacts. During construction, inspection of these measures and other stormwater control measures will be conducted per 327 IAC 15-5 Rule 5 requirements.

- e. Karst Feature Mitigation Measure Inspection - After construction, karst feature water quality mitigation measures (i.e. detention basins, hazardous materials traps, rock filters, peat filters, etc.) will be visually inspected semiannually (2 times per year) for five consecutive years. Remediation measures, if needed, will be developed in consultation with the IDNR, IDEM, and USFWS. After the five year period, karst feature water quality mitigation measures will be incorporated into a long-term monitoring system. Maintenance concerns identified as part of the long-term monitoring will be addressed.
6. Construction and Maintenance Monitoring - Per Stipulation 13 of the 1993 Karst MOU, IDNR, IDEM, and USFWS may visit the Section 4 construction site at any time. Agency staff shall wear proper personal protection equipment (hard hat, vest, and boots) and carry identification. Agency staff shall provide notification to the appropriate INDOT personnel on site.
  7. Term and Termination - The term of this Agreement shall be from the date of last signature through the date that all mitigation measures described herein are completed or six (6) years after construction is complete (whichever occurs first), unless extended or renewed pursuant to Section 8 of this Agreement. Any signatory to this Agreement may terminate it by providing at least sixty (60) days written notice to the other Parties, provided that the Parties shall consult during the sixty day period prior to termination to seek agreement on amendments or other actions that would avoid termination of this Agreement. The terminating party shall bear all costs associated with early termination of this Agreement, which may include costs of project delay, contractor claims, project change orders or cost increases.
  8. Amendment - Any Party may request an amendment of the Agreement, whereupon all parties shall consult to consider the proposed amendment. However, no amendment to this Agreement shall be effective until reduced to a written agreement and signed by all Parties.
  9. Funding Cancellation Clause. When the Director of the Office of Management and Budget makes a written determination that funds are not appropriated or otherwise available to support continuation of the performance of this Agreement, this Agreement shall be canceled. A determination by the Budget Director that funds are not appropriated or otherwise available to support continuation of performance shall be final and conclusive.
10. General Provisions.
    - A. During the performance of this Agreement, the Parties agree to abide by the terms of Executive Order 11246 on non-discrimination and will not discriminate against any person because of age, race, color, religion, sex, or national origin. The participants will take affirmative action to ensure that applicants are employed without regard to their age, race, color, religion, sex, or national origin.
    - B. All contracts to be developed and awarded pursuant to this Agreement, including all designs, plans, specifications, estimates, construction, utility relocation work, right-of-way acquisition procedures, acceptance of work and procedures in general, shall at all times conform to the applicable Federal and state laws, rules, regulations, orders and approvals, including procedures and requirements relating to labor standards, equal

employment opportunity non-discrimination, compliance with the American with Disabilities Act, anti-solicitation, information, auditing, and reporting requirements.

C. Continuation of Existing Responsibilities

(i.) The Parties to this Agreement are acting in an independent capacity in the performance of their respective legally authorized functions under this Agreement, and none of the Parties' employees are to be considered the officer, agent, or employee of another Party.

(ii.) This Agreement shall not abrogate any obligations or duties to comply with the regulations promulgated under the 1973 (Federal) Endangered Species Act, as amended; the 1958 (Federal) Fish and Wildlife Coordination Act, as amended; the National Environmental Policy Act of 1969; the (Federal) Clean Water Act of 1977, as amended; National Historic Preservation Act of 1966, or any other Federal statute or implementing regulations.

D. This Agreement in no way restricts the Parties from participating in similar activities with other public or private agencies, organizations, and individuals.

E. This Agreement and any claims arising out of this agreement shall be governed by the laws of the United States and the State of Indiana.

F. Each of the Parties shall provide its own workers compensation coverage as needed throughout the duration of the Agreement and any extensions thereof.

G. All Parties acknowledge that any person executing this Agreement in a representative capacity hereby represents that he/she has been duly authorized by his/her principal to execute this Agreement on such principal's behalf.

In Witness Whereof, each PARTY has caused this Agreement to be executed by an authorized official on the date and year set forth next to their signatures.

INDIANA DEPARTMENT OF TRANSPORTATION

By:

*Mark Keenan, Chief Rep.*  
\_\_\_\_\_

Date:

*12/10/11*  
\_\_\_\_\_

*Council & Dept Comm.*

*For: Michael B  
Cline,  
Commissioner*

INDIANA DEPARTMENT OF NATURAL RESOURCES

By: *Scott A. Kuntz*

Date: *1/27/2012*

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

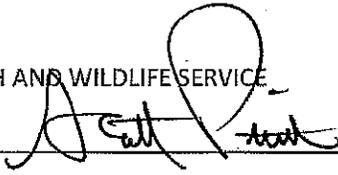
By: \_\_\_\_\_

A handwritten signature in black ink, appearing to be 'G. M. H.', written over a horizontal line.

Date: DECEMBER 19, 2011

U.S. FISH AND WILDLIFE SERVICE

By:

A. R. Scott

Date:

1/11/12

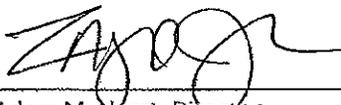
APPROVALS

STATE OF INDIANA  
Department of Administration

  
\_\_\_\_\_  
Robert D. Wynkoop, Commissioner

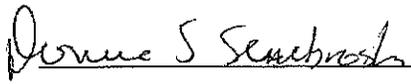
Date: 2/24/12

Indiana State Budget Agency

  
\_\_\_\_\_  
Adam M. Horst, Director (for)

Date: 2/29/12

APPROVED AS TO FORM AND LEGALITY

  
\_\_\_\_\_  
Gregory F. Zoeller, Attorney General (FOR)

Date: 3/9/12

**I-69 Section 4 Karst MOU**

# **Attachment A**

**1993 KARST MOU**

## **Memorandum of Understanding**

**(Retyped of original text 3/14/2007)**

This Memorandum of Understanding is made and entered into this thirteenth day of October, 1993, between the Indiana Department of Transportation (INDOT), the Indiana Department of Natural Resources (IDNR), the Indiana Department of Environmental Management (IDEM) and the U.S. Fish and Wildlife Service (USFWS) for the purpose of delineating guidelines for construction of transportation projects in karst regions of the State.

**Whereas**, INDOT, IDNR, IDEM and the USFWS wish to cooperate in the identification, study and treatment of drainage in karst regions related to the construction of transportation projects and

**Whereas**, INDOT, IDNR, IDEM and the USFWS accept responsibility to ensure the transportation needs of Indiana are met in an environmentally sensitive manner that protects the habitat of all species and

**Whereas**, design and construction practices must protect ground water quality, public health and safety, and the environment.

**Whereas**, the Indiana Department of Natural Resources will conform to the terms and conditions within this MOU for their transportation projects. Likewise, it will be IDNR's responsibility to provide standard biological review for projects in the karst region.

**Therefore**, in consideration of the terms and conditions set forth herein the INDOT, IDNR, IDEM and USFWS agree as follows:

1. INDOT in cooperation with the IDNR, IDEM and USFWS shall determine the location of sinkholes, caves, underground streams, and other related karst features and their relationship prior to proposed alterations or construction in karst regions of the state, a consultant with expertise in karst geology/hydrology may assist in the identification and characterization of the karst features. The choice of the consultant retained by INDOT will be subject to the review of IDNR, USFWS and IDEM.

2. Tasks to accomplish this work will include:

Research public and private information sources for information relative to karst features.

Conduct field check karst and cave features that appear from the first task and identify any additional karst features.

Prepare a draft report, with photographs and maps, drainage areas, and land use of that drainage area for each sinkhole or karst feature, dye-tracing and/or other geotechnical information to determine subsurface flow of water in the project area

and surface water drainage patterns of the area. Calculations of estimates of annual pollutant loads from the highway and drainage with the right-of-way will be made, including prior to, during and post construction estimates. The design of the treatment of the karst features will take into consideration treatments necessary to meet the standards of the monitoring and maintenance plan.

That report will be used as a tool to assist in determining the proposed highway alignment. The intent of INDOT is to avoid karst areas and use alternate drainage where possible.

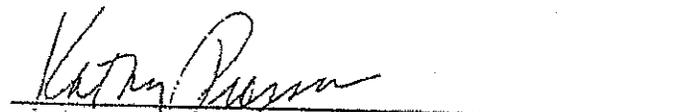
3. IDNR, IDEM and USFWS will be requested to review and comment on the findings at the early coordination phase of project development.
4. INDOT, using the input from IDNR, IDEM and USFWS will begin to formulate appropriate measures to offset unavoidable impacts to the karst features. It is understood by all parties that some of the methods proposed at this time will be generic and could be applied throughout the length of the corridor. Other methods may be specific to a particular cave or karst feature. Some of the approaches may require additional investigations to determine their necessity and/or their feasibility. A revised draft report will be prepared by INDOT's consultant and provided to the IDNR, IDEM and the USFWS as part of the design review process.
5. Drainage entering from beyond the right-of-way will be treated according to the same process as drainage generated by the project.
6. As the project progresses further into the design phase, the IDNR, IDEM and USFWS will be invited and will attend field checks and meetings dealing with efforts to negate or minimize adverse impacts.
7. Hazardous materials traps (HMT's) will be constructed at storm water outfalls and other locations that will protect karst features from spill contamination.
8. INDOT agrees to develop a monitoring and maintenance plan for the affected karst features. IDNR, IDEM and USFWS will be provided an opportunity to review this plan. The establishment of water quality and a point at which a standard is established for remediation will be a part of each monitoring plan. The results of the monitoring will be submitted to IDNR, USFWS and IDEM on a regular basis.
9. A low salt and no spray strategy will be developed for each future project. A signing strategy for these items will also be developed for each project.
10. Prior to acceptance of the final design plans an agreement will be developed which will set out the appropriate and practicable measures to offset unavoidable impacts to karst features. This agreement will be signed by the Department Director of IDNR, the Commissioner of the IDEM, the Commissioner of INDOT and the Supervisor of the USFWS Bloomington, Indiana Field Office. The agreement will become a part of

the contract documents for the project, will be discussed at the pre-construction conference and will be on file at the office of the project administrator.

11. INDOT will assure that the terms of the agreement will be completed with all safeguards given to the karst area. Special provisions, which are binding provisions that are a part of the contract, will be included outlining the precautions to be taken. Construction and design strategies for handling karst features will be discussed with the contractor(s) and project administrator during the pre-construction conference. Project administrator shall ensure that the contractor is following the new erosion control standards that meet Rule 5 of 327 IAC 13 and any special precautions outlined in the design plans that the sinkhole treatment is being handled correctly. The erosion control plan must be available at the project administrator's office. An emergency response plan will be made a part of the contract documents. In addition, the contract documents will contain a strategy for signing to alert the public to the fact that all types of spills are potentially hazardous to the karst environment. For INDOT, this plan would be procedure 20 of the Field Operations Manual dated 6/24/1992. [Currently in the Construction Activities Environmental Manual].
12. The location and nature of the sinkholes and drainage schematic will be provided to the IDEM. They will provide the information to the appropriate local authorities and the Hazmat teams. An emergency response plan will be followed. This constitutes procedure 20. Included in this information is an understanding that all types of spills are potentially hazardous to karst regions.
13. IDNR, IDEM and USFWS personnel will monitor construction and maintenance to the agreed upon terms, as deemed necessary.
14. If during construction it is found that the mitigation agreement must be altered, all of the agencies will be contacted and agreement reached prior to work continuing in that specific area of the project. In order to not unduly delay projects, a two working days response time is needed from the resource agencies.
15. Treatments will be maintained during construction by means of a visual inspection on a weekly basis or after every rain. Corrective action will be taken as needed.
16. If after the above procedure is followed and a state/federal endangered/threatened species is found during construction, work in that area of the project will stop. The IDNR and USFWS will be immediately notified. The IDNR and USFWS will promptly investigate the situation, advise the project administrator and assume responsibility for protecting the endangered species and taking the appropriate action.
17. This document will be reviewed annually or more frequently at the request of any of the foregoing agencies.

  
MR. FREDERICK C. P. POOL, COMMISSIONER  
INDIANA DEPARTMENT OF TRANSPORTATION

  
MR. PATRICK R. RALSTON, DIRECTOR  
INDIANA DEPARTMENT OF NATURAL RESOURCES

  
MS. KATHY PROSSER, COMMISSIONER  
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

  
MR. DAVID C HUDAX, FIELD SUPERVISOR, BLOOMINGTON FIELD OFFICE  
U. S. FISH AND WILDLIFE SERVICE

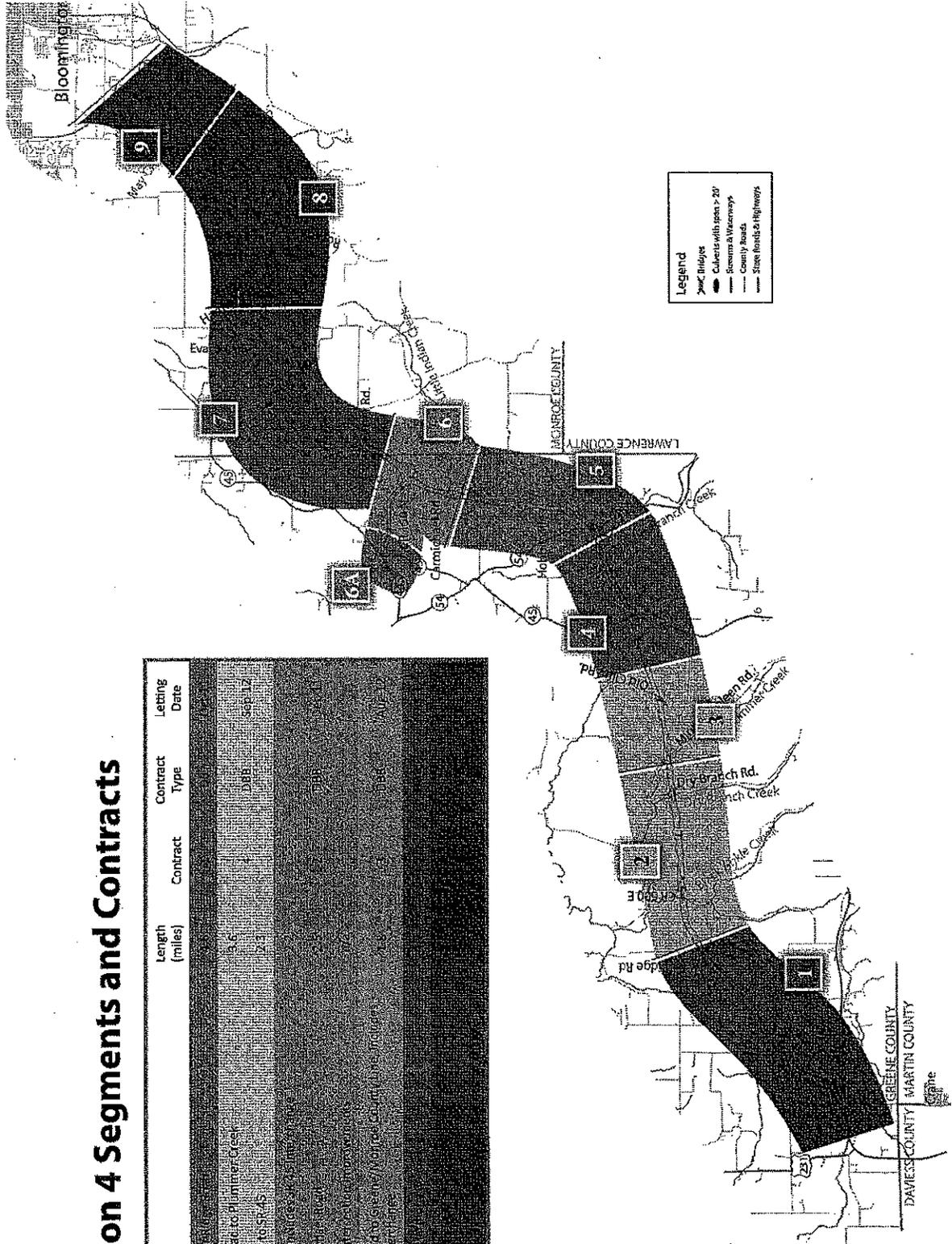
**I-69 Section 4 Karst MOU**

# **Attachment B**

**SECTION 4 SEGMENTS AND CONTRACTS MAP**

# Section 4 Segments and Contracts

Segment	Description	Length (miles)	Contract	Contract Type	Letting Date
1	Taylor (Use Road to Plummer Creek)	3.6	088		Sep-12
2	Plummer Creek to SR-45	2.3			
3	SR-45 to SR-45	2.0			
4	SR-45 to SR-45	2.0			
5	SR-45 to SR-45	2.0			
6	SR-45 to SR-45	2.0			
7	SR-45 to SR-45	2.0			
8	SR-45 to SR-45	2.0			
9	SR-45 to SR-45	2.0			
10	SR-45 to SR-45	2.0			
11	SR-45 to SR-45	2.0			
12	SR-45 to SR-45	2.0			
13	SR-45 to SR-45	2.0			
14	SR-45 to SR-45	2.0			
15	SR-45 to SR-45	2.0			
16	SR-45 to SR-45	2.0			
17	SR-45 to SR-45	2.0			
18	SR-45 to SR-45	2.0			
19	SR-45 to SR-45	2.0			
20	SR-45 to SR-45	2.0			
21	SR-45 to SR-45	2.0			
22	SR-45 to SR-45	2.0			
23	SR-45 to SR-45	2.0			
24	SR-45 to SR-45	2.0			
25	SR-45 to SR-45	2.0			
26	SR-45 to SR-45	2.0			
27	SR-45 to SR-45	2.0			
28	SR-45 to SR-45	2.0			
29	SR-45 to SR-45	2.0			
30	SR-45 to SR-45	2.0			
31	SR-45 to SR-45	2.0			
32	SR-45 to SR-45	2.0			
33	SR-45 to SR-45	2.0			
34	SR-45 to SR-45	2.0			
35	SR-45 to SR-45	2.0			
36	SR-45 to SR-45	2.0			
37	SR-45 to SR-45	2.0			
38	SR-45 to SR-45	2.0			
39	SR-45 to SR-45	2.0			
40	SR-45 to SR-45	2.0			
41	SR-45 to SR-45	2.0			
42	SR-45 to SR-45	2.0			
43	SR-45 to SR-45	2.0			
44	SR-45 to SR-45	2.0			
45	SR-45 to SR-45	2.0			
46	SR-45 to SR-45	2.0			
47	SR-45 to SR-45	2.0			
48	SR-45 to SR-45	2.0			
49	SR-45 to SR-45	2.0			
50	SR-45 to SR-45	2.0			



**I-69 Section 4 Karst MOU**

# **Attachment C**

**ANTICIPATED KARST FEATURE DESIGN SCENARIOS  
AND REMEDIATION GUIDANCE**

I-69, SECTION 4 – US 231 to SR 37

ANTICIPATED KARST FEATURE DESIGN SCENARIOS AND REMEDIATION GUIDANCE

The features and their association/connectivity may be handled differently for the three modes of karst along the Corridor: 1) Big Clifty/Beech Creek; 2) Bethel/Blue River Group; and 3) Blue River Group/Sanders Group.

- Big Clifty / Beech Creek – (Taylor Ridge to SR54) Big Clifty is a sandstone unit that is found on ridges in the project area and springs are developed in the underlying Beech Creek Limestone in Segments 2-5.
- Blue River Group - (SR54 to Harmony Road) St. Louis and Ste. Genevieve and Paoli Limestones are the primary karst forming geologic units (thinly bedded, highly jointed) in Segments 6-8.
- Sanders Group - (Harmony Road to SR37) Harrodsburg and Salem Limestones develop karst features in Segment 9.

Spring recharge is generally through swallets and sinking streams from Taylor Ridge to Harmony Road. Spring recharge is through sinkholes and dry branches from Harmony Road to SR 37. Hydrogeologic boundaries are present along the SR 45 Ridge and the Kirksville Ridge.

Design scenarios, although presented in a table format, are to be evaluated on a case-by-case basis since karst location; groundwater conditions, topography, an understanding of the relation and impact to other karst features, practicality, and the requirements of the MOU must be considered in the final design scenario used. The following areas of importance will require site specific karst design scenarios:

1. Ashcraft Cave
2. Goodes Cave
3. Harp Spring Cave
4. Hugentober Blowhole Cave
5. Fern Hills Cave
6. Rankin Spring
7. Rock Springs Cave
8. Rush To It Cave
9. SR 37 Interchange
10. Tramway Road Karst Area

KARST FEATURE CLASSIFICATION	FEATURE ABOVE PROPOSED PROFILE GRADE	FEATURE AT PROPOSED PROFILE GRADE	FEATURE BELOW PROPOSED PROFILE GRADE
SWALLET/SINKING STREAM	If possible and practical, consider collecting prior to reaching roadway and pipe / discharge to other side of roadway to perpetuate recharge; understanding of hydrogeologic conditions is necessary; may require sand/peat filter; use geosynthetic lined ditches.	Preferred alternative is to span feature with culvert to maintain storm flow / recharge; support structure below karstic rock. Alternatively, consider collecting prior to reaching roadway and pipe / discharge on other side of roadway to maintain recharge; understanding of hydrogeologic conditions is necessary; may require sand/peat filter; use geosynthetic lined ditches.	Span feature with culvert to maintain storm flow / recharge; support structure below karstic rock.

KARST FEATURE CLASSIFICATION	FEATURE ABOVE PROPOSED PROFILE GRADE	FEATURE AT PROPOSED PROFILE GRADE	FEATURE BELOW PROPOSED PROFILE GRADE
VERTICAL FRACTURES in SANDSTONE. "CAPROCK" overlying LIMESTONE	Excavate the fractured sandstone down to pregrade. If a buried sinkhole, bedrock openings or solution voids are found in the limestone then: if directly under roadway plug the opening. If outside roadway, consider inverse graded filter to perpetuate recharge, as practical.	Recharge cut-off is a concern; possible site for SWM ponds to maintain recharge; requires understanding of hydrologic conditions so as to not overload karst system; may consider lined SWM ponds with controlled metered outflow and sand/peat filter.	Recharge cut-off is a concern; possible site for SWM ponds to maintain recharge; requires understanding of hydrologic conditions so as to not overload karst system; may consider lined SWM ponds with controlled outflow and sand/peat filter.
RUBBLE COLUMN THROUGH CAVE	If exposure is unavoidable, excavate to stable slope, remove loose material, and collect drainage. Understanding of hydrogeologic conditions is necessary to avoid creating a cascade along exposed slope face that could result unsafe roadway conditions.	Remove and backfill with aggregate / granular material.	Remove and backfill with aggregate / granular material.
HORIZONTAL CAVE CONDUIT WITHOUT ACTIVE CAVE STREAM	Site characterization is necessary to understand feature. Possible scenarios could include: <ul style="list-style-type: none"> <li>Avoidance.</li> <li>Excavate to stable slope, remove loose material, and collect drainage.</li> </ul> Understanding of hydrogeologic conditions is necessary to avoid creating a cascade along exposed slope face that could result unsafe roadway conditions.	Site characterization is necessary to understand feature and assess collapse likelihood and subsequent roadway damage. Possible scenarios could include: <ul style="list-style-type: none"> <li>Backfill with aggregate / granular material.</li> <li>Consider inverse graded aggregate filter, if appropriate.</li> <li>Cap / span feature if roadway collapse is likely; use of reinforced embankment may be an alternative; support structure below karstic rock.</li> </ul>	Site characterization is necessary to understand feature and assess collapse likelihood and subsequent roadway damage. Possible scenarios could include: <ul style="list-style-type: none"> <li>If practical, expose and backfill with aggregate (possible grouting); understanding of hydrologic conditions is necessary to prevent backflow conditions.</li> <li>Cap / span feature if roadway collapse is likely; use of reinforced embankment may be an alternative; support structure below karstic rock.</li> </ul>

KARST FEATURE CLASSIFICATION	FEATURE ABOVE PROPOSED PROFILE GRADE	FEATURE AT PROPOSED PROFILE GRADE	FEATURE BELOW PROPOSED PROFILE GRADE
HORIZONTAL CAVE CONDUIT WITH ACTIVE CAVE STREAM	Avoidance.	Span feature with culvert / bridge; support structure below karstic rock.	Site characterization is necessary to understand feature and assess collapse likelihood and subsequent roadway damage. Possible scenarios could include: <ul style="list-style-type: none"> <li>• If rock cover can provide long-term support, leave as is.</li> <li>• If rock cover cannot provide long-term support, consider capping / spanning feature or use of reinforced embankment; support structure below karstic rock.</li> </ul>
LARGE CAVE ROOM	Site characterization is necessary to understand feature and hydrogeologic conditions. Possible scenarios could include: <ul style="list-style-type: none"> <li>• Avoidance.</li> <li>• Excavate to stable slope and trim remaining cave walls as necessary to remove loose material.</li> </ul>	Site characterization is necessary to understand feature and hydrogeologic conditions. Possible scenarios could include: <ul style="list-style-type: none"> <li>• Avoidance.</li> <li>• Expose and backfill with aggregate / granular material.</li> </ul>	Site characterization is necessary to understand feature and hydrogeologic conditions. Possible scenarios could include: <ul style="list-style-type: none"> <li>• Avoidance.</li> <li>• Expose and backfill with aggregate / granular material.</li> <li>• Span feature or use reinforced embankment; support structure below karstic rock.</li> </ul>

KARST FEATURE CLASSIFICATION	FEATURE ABOVE PROPOSED PROFILE GRADE	FEATURE AT PROPOSED PROFILE GRADE	FEATURE BELOW PROPOSED PROFILE GRADE
VERTICAL SHAFT CONDUIT	<p>Site characterization is necessary to understand feature. Possible scenarios could include:</p> <ul style="list-style-type: none"> <li>• Possible lined SWM discharge if conduit exposed at base of cut; may require sand/peat filter; the outfall has to be metered to prevent backflow; line SWM ponds with geosynthetic; pond may require pumping.</li> <li>• Cap / span if under roadway; support structure below karstic rock.</li> </ul>	<p>Site characterization is necessary to understand feature. Possible scenarios could include:</p> <ul style="list-style-type: none"> <li>• Possible lined SWM discharge after sand/peat filter; the outfall has to be metered to prevent backflow; use geosynthetic lined ditches and lined SWM pond.</li> <li>• Inverse graded filter.</li> <li>• Cap / span plug if under roadway; support structure below karstic rock.</li> </ul>	<p>Site characterization is necessary to understand feature. Possible scenarios could include:</p> <ul style="list-style-type: none"> <li>• Inverse graded filter.</li> <li>• Cap / span plug if under roadway; support structure below karstic rock.</li> </ul>
SPRING	<p>If karst spring, use spring box and discharge, as practical, beyond roadway along the spring's natural course; use geosynthetic lined ditches and lined SWM ponds. If non-karst spring, treat using standard INDOT methods.</p>	<p>If karst spring, use spring box and discharge, as practical, beyond roadway along the spring's natural course; use geosynthetic lined ditches and lined SWM ponds. If non-karst spring, treat using standard INDOT methods.</p>	<p>If karst spring, use spring box and discharge, as practical, beyond roadway along the spring's natural course; use geosynthetic lined ditches and lined SWM ponds. If non-karst spring, treat using standard INDOT methods.</p>

**I-69 Section 4 Karst MOU**

# **Attachment D**

**WATER QUALITY SAMPLING PARAMETERS**

**Chemical test parameters and analytical methods for water sampling at karst springs and streams in Section 4**

<b>Parameter</b>
Total Suspended solids (TSS) – USEPA 160.2;
Chloride – USEPA 325.2
Hardness – USEPA 130-2
Oil & Grease – USEPA 413.1
Arsenic – USEPA206.2
Chromium – USEPA 218.2
Cadmium – USEPA 213.2
Copper – EPA 200.7
Lead – USEPA 239.2
Mercury – USEPA 245.1
Nickel – USEPA 249.2
Selenium – USEPA 270.2
Zinc – EPA 200.7
Imazaquin
Trifluralin
Atrazine
Alachlor
Malathion
Chlorpyrifos
Captan

Note: Water quality parameters are taken from a previous INDOT karst study along SR 37.

**I-69 Section 4 Karst MOU**

# **Attachment E**

**KARST SIGN GRAPHICS**

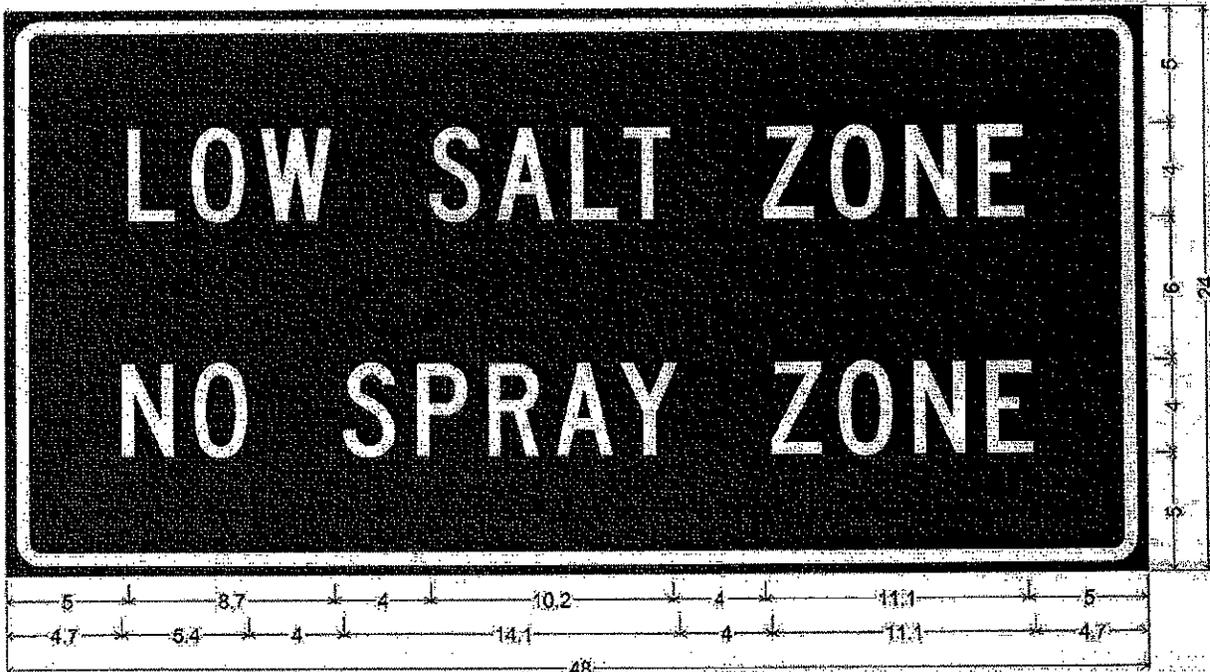


1.5" Radius; 0.6" Border, 0.4" Indent, White on Blue;  
 "REPORT ALL" C; "SPILLS TO" C; "1-888-233-7745" C;  
 Table of letter and object lefts.

R	E	P	O	R	T	A	L	L
6.8	9.8	12.5	16.3	18.5	21.4	27.4	30.5	36.2

S	P	I	L	L	S	T	O
9.0	12.0	15.1	16.5	19.1	21.8	28.0	30.7

1	-	0	0	0	-	2	3	3	-	7	7	4	5
3.0	4.6	7.1	9.9	12.8	15.6	18.1	21.0	23.8	26.7	28.9	31.3	33.7	36.9



1.5" Radius; 0.6" Border; 0.4" Indent; White on Blue;  
 "LOW SALT ZONE" C; "NO SPRAY ZONE" C;  
 Table of letter and object lefts.

L	O	W	S	A	L	T	Z	O	N	E
5.0	7.7	10.7	17.7	20.5	23.7	25.9	31.9	34.8	38.0	41.0
N	O	S	P	R	A	Y	Z	O	N	E
4.7	7.8	14.1	17.1	20.1	23.0	25.7	32.2	35.1	38.2	41.3

MEMORANDUM



**To:** MPO Committees

**From:** Vince Caristo, MPO Staff

**Date:** October 16, 2013

**Re:** National Highway System, National Truck Network, and Federal Functional Classification Review

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**Background**

In August 2013, INDOT initiated a request to all Indiana MPO's for a comprehensive review of state and federal updates to the National Highway System (NHS), National Truck Network (NTN), and Federal functional classification networks. Each of these networks has undergone changes as a result of the passage of MAP-21 and 2010 Census. Localities served by an MPO have been asked to coordinate their review of these networks through the MPO.

The maps included in this packet represent the desired changes to each of the three networks that were agreed upon by transportation staff from the City of Bloomington and Monroe County.

**National Highway System (NHS), National Truck System (NTN), and Federal Functional Classification Networks**

- 1) The *National Highway System (NHS)* was established in 1995 as a strategic network of roadways that are important to the nation's economy, defense, and mobility. It includes the Interstate Highway System and other roads serving major airports, ports, rail or truck terminals, railway stations, pipeline terminals and other strategic transportation facilities.

Highways on the NHS must comply with applicable federal regulations, including those for design standards, contract administration, State-FHWA oversight procedures, Highway Performance Monitoring System reporting, National Bridge Inventory reporting, national performance measures data collection, and outdoor advertisement/junkyard control. Highways on the NHS are eligible for additional funding sources, such as National Highway Performance Program (NHPP) funding, but at this time these funds are utilized by the state and not distributed to localities.

In October 2012, MAP-21 automatically added to the NHS those roads that were at that time functionally classified as principal arterials but not yet part of the NHS.

The NHS system in Monroe County as of 2011 is included in this packet as a reference point for understanding the impact of this automatic change.

- 2) The *National Truck Network (NTN)* was established by the Surface Transportation Assistance Act of 1982 as a national network of highways designated for use by large trucks. On these highways, Federal width and length limits apply. The NTN includes almost all of the Interstate Highway System and other, specified non-Interstate highways. The network comprises more than 200,000 miles of highways.

## Bloomington/Monroe County Metropolitan Planning Organization

INDOT has indicated that the NTN in Monroe County has not undergone any changes as a result of MAP-21.

- 3) *Functional classification* is the grouping of roadways based on the character of service roadways are intended to provide, with mobility and land access being the primary determinants. The functional classification of the nation's roadways provides important inputs into the Highway Performance Management System (HPMS) program and into the apportionment of federal funds, such as for the National Highway System (NHS) and Surface Transportation Program (STP).

Federal functional classifications are updated after each decennial census. In 2008, FHWA initiated a change in the number of functional classes from 12 classes to 7 classes, which are as follows: Interstate; Other Freeways or Expressways; Other Principal Arterial; Minor Arterial; Major Collector; Minor Collector; Local.

The federal functional classifications from the old 12-class system are provided in this packet as reference point for understanding the impact of this change.

### **Funding Implications**

The Federal Highway Administration has indicated that the NHS, NTN, and Federal functional classifications will not influence the amount of federal-aid funding provided to the BMCMPPO.

### **Action Requested**

The MPO committees are asked to recommend for approval the proposed changes to the National Highway System, National Truck Network, and Federal functional classification networks.

# National Highway System: Bloomington, IN

U.S. Department of Transportation  
Federal Highway Administration

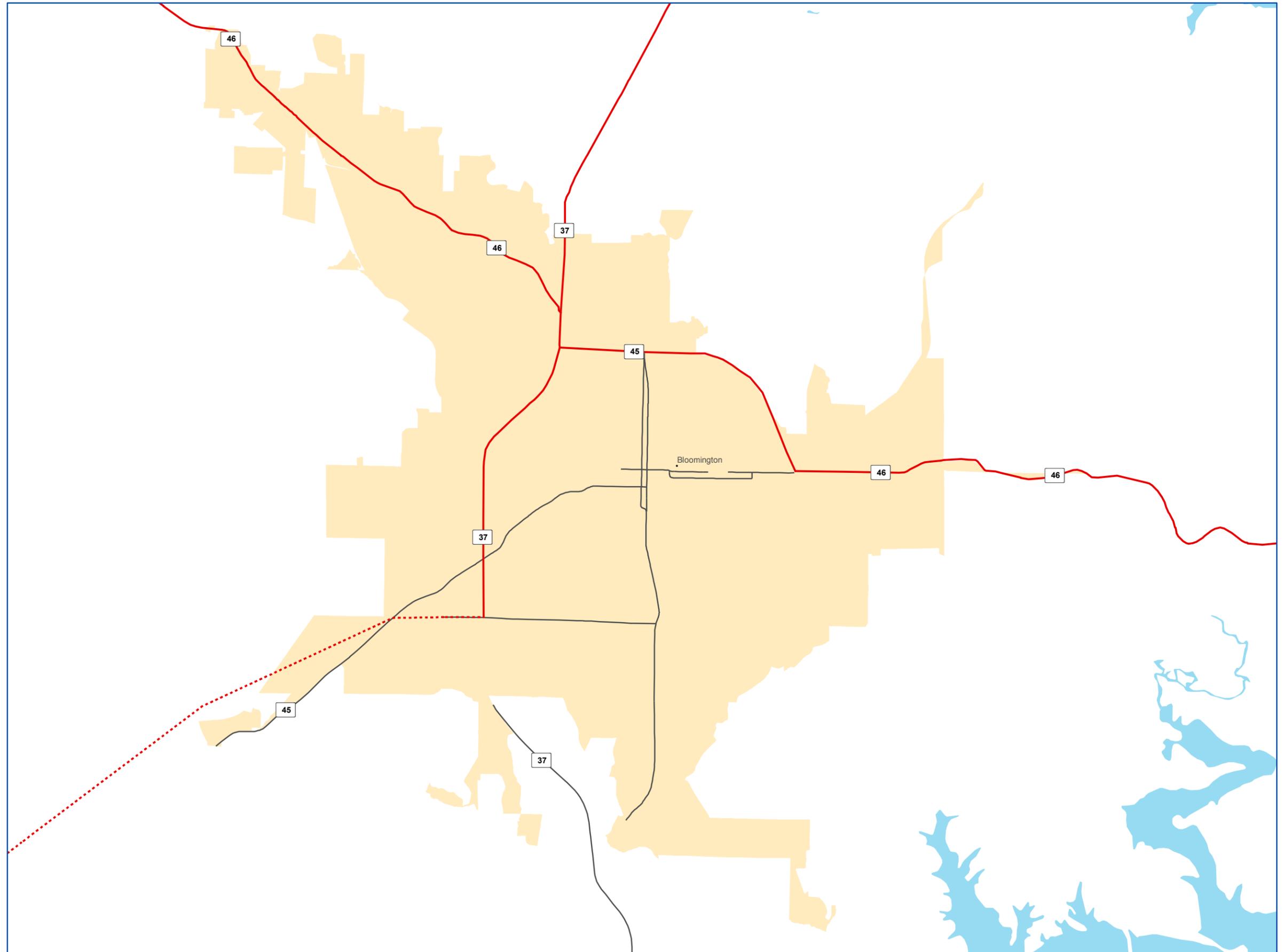
-  Eisenhower Interstate System
-  Other NHS Routes
-  Non-Interstate STRAHNET Route
-  Major STRAHNET Connector
-  Intermodal Connector
-  Intermodal/STRAHNET Connector
-  Unbuilt NHS Routes
-  MAP-21 Principal Arterials
-  Census Urbanized Areas
-  Department of Defense
-  Water
-  Airport
-  Intercity Bus Terminal
-  Ferry Terminal
-  Truck/Pipeline Terminal
-  Multipurpose Passenger Facility
-  Port Terminal
-  Truck/Rail Facility
-  AMTRAK Station
-  Public Transit Station



0 1 2  
Miles

0 1.5 3  
Kilometers

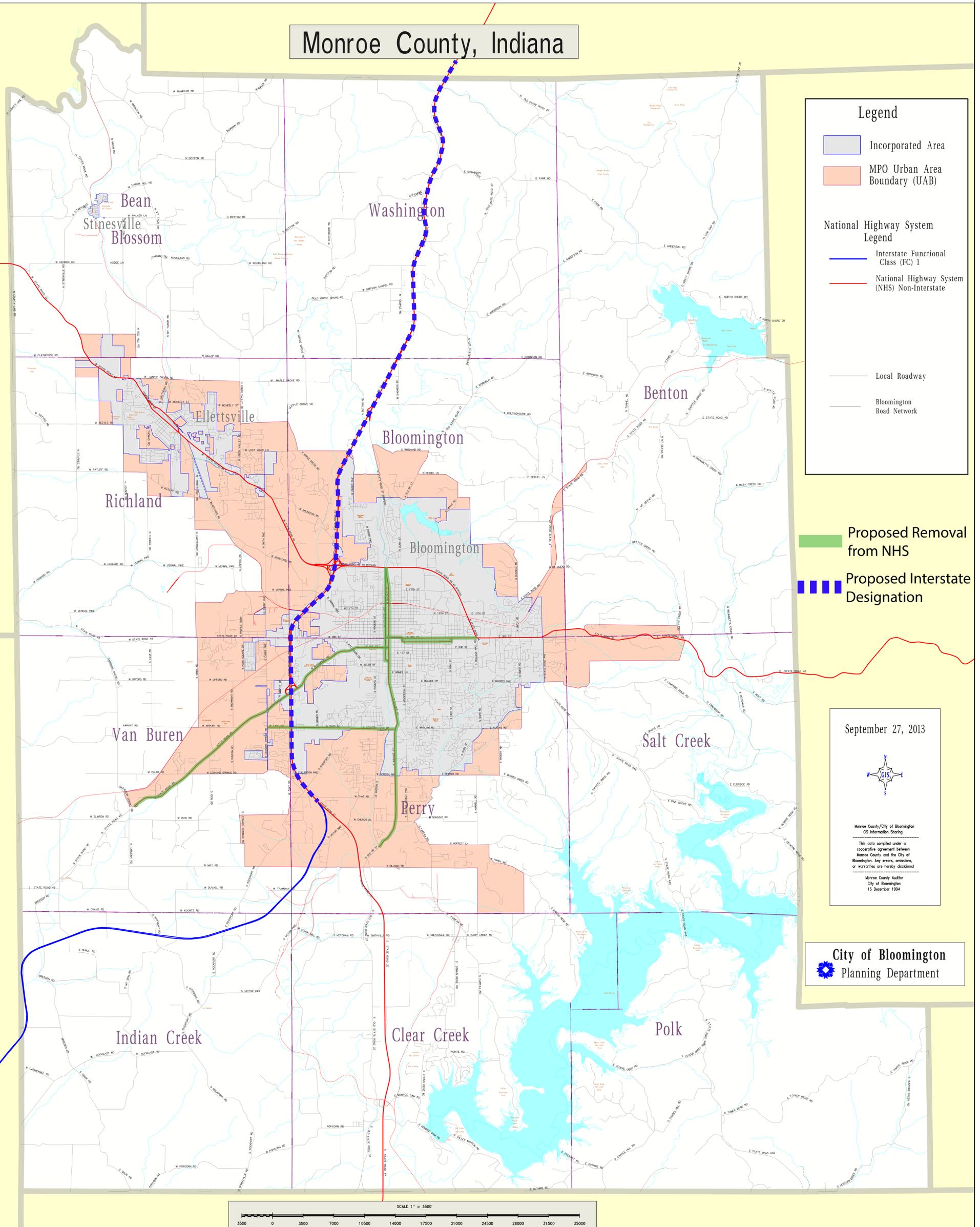
FHWA: Effective October 1, 2012



# Bloomington-Monroe County MPO Local Transportation Network Review

# National Highway System

## Monroe County, Indiana



**Legend**

- Incorporated Area
- MPO Urban Area Boundary (UAB)

**National Highway System Legend**

- Interstate Functional Class (FC) 1
- National Highway System (NHS) Non-Interstate
- Local Roadway
- Bloomington Road Network

- Proposed Removal from NHS
- Proposed Interstate Designation

September 27, 2013

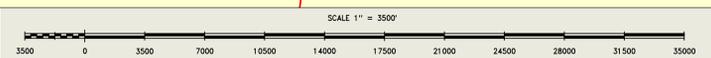


Monroe County/City of Bloomington GIS Information Sharing

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Monroe County Auditor  
City of Bloomington  
16 December 1994

**City of Bloomington**  
Planning Department



# Bloomington-Monroe County MPO Local Transportation Network Review

# National Truck Network

Monroe County, Indiana

**Legend**

- Incorporated Area
- MPO Urban Area Boundary (UAB)

**National Truck Network Legend**

- In Network
- Local Roadway
- Bloomington Road Network

- Proposed Removal from NTN
- Proposed Addition to NTN

September 12, 2013



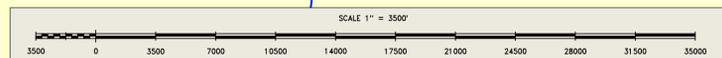
Monroe County/City of Bloomington  
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Monroe County Auditor  
City of Bloomington  
16 December 1994

**City of Bloomington**  
Planning Department

I-69 Section 4  
(estimated completion 2014-2015)





# Bloomington-Monroe County MPO Local Transportation Network Review

# INDOT Functional Classification

Monroe County, Indiana

**Legend**

- Incorporated Area
- MPO Urban Area Boundary (UAB)

**Functional Class Legend**

- Interstate
- Other Freeway or Expressway
- Other Principal Arterial (OPA)
- Minor Arterial
- Major Collector
- Minor Collector
- Local Roadway
- Bloomington Road Network

- Removal
- Proposed upgrade in FC designation
- Proposed downgrade in FC designation
- Future major collector
- Future minor arterial
- Future road closure

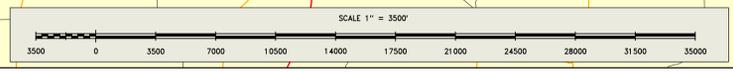
September 12, 2013

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16 December 1994

**City of Bloomington**  
Planning Department



**Indianapolis MPO**  
**Group 1 Urban STP Project Selection Criteria**

Adopted by the Indianapolis Regional Transportation Council  
Policy Committee  
August 19<sup>th</sup>, 2009

The Indianapolis MPO receives an annual allocation of Group 1 Urban STP funds in the neighborhood of \$27 million that it is charged with administering. Because the needs of the region exceed the annual allocation received, the MPO has developed a process to assist in the selection projects that will utilize these funds.

The process for selecting Group 1 Urban projects has been used for many years and was revised several times, the last of which being 2001. In August of 2008, at the direction of the IRTC, the MPO staff formed a sub-committee to reexamine the existing criteria and recommend appropriate changes. The sub-committee included the following members:

Lori Miser  
Mike Dearing  
Steve Cunningham  
Philip Roth  
Tom Beck  
Cat Griffith (Schoenherr)  
John Ayres  
John Myers  
Tonya Galbraith  
Joanne Sanders  
Jeff Sheridian  
Mayor Robin Thoman

Over the course of several months and numerous meetings, the sub-committee first reevaluated the general policy guidelines under which the selection process operates and then developed the revised selection criteria. The revised criteria was presented to the full IRTC for review and comment in May 2009 and adopted by both the Technical and Policy committees in August of 2009.

The Selection Criteria adhere to the Policy Guidelines as revised and shown below:

- **POLICY GUIDELINE 1** – The proposed program should emphasize preservation of and efficiency improvements to the existing transportation system without placing excessive reliance on projects which increase roadway capacity (and the reliance on single occupancy vehicles) and their subsequent impact upon the region’s air quality (Goal 1 of the Regional Transportation Plan). Emphasis should be placed on preservation rather than expansion.
- **POLICY GUIDELINE 2** – The Indianapolis Regional Transportation Improvement Program (IRTIP) should follow the priority established in the Regional Plan in implementing projects of regional significance. Although program equity is a key component of the IRTIP, no sub-allocation of federal funds will be affected to replace the project staging and priorities established in the RTP to advance the overall interrelated regional interests.

- **POLICY GUIDELINE 3** – Proposed projects within the region that have a proven potential to enhance economic development, stimulate the economy, and assist in job creation should be given additional consideration for inclusion in the program. Projects that have the potential to positively impact the quality of life for the area’s residents should be considered in the development of the program. Projects should:
  - Be consistent and not in conflict with local and/or county comprehensive plans (i.e. the project implements a solution or addresses a problem identified in the plan)
  - Provide improvements to air quality (improvement is consistent with the CMAQ eligibility requirements)
  - Provide aesthetic improvements where appropriate (provision of landscaping or other scenic beautification)
  - Provide access to major generators (including multi-modal and intra-modal facilities, cultural and recreational sites)
  
- **POLICY GUIDELINE 4** – Projects are funded at an 80% federal share. If the project costs increase beyond 10% of the amount originally programmed in the IRTIP, the local public agency will be responsible for those costs, unless extenuating circumstances can be documented.
  - MPO staff are directed to scrutinize projects carefully to ensure they have the potential to move to construction, due to the key consideration of spending the federal funds efficiently and effectively.
  - Projects that provide more than a 20% local match should be given special consideration.
  
- **POLICY GUIDELINE 5** – Due to continued growth of the urban area and limited funding availability, Group 1 STP funds are restricted to the construction phase only.

The revised Group 1 Urban STP Selection Criteria (“Selection Criteria”) will be used by the MPO in project selection and prioritization as Group 1 funds become available for programming. This Selection Criteria provides a sound basis for evaluating the relative importance of projects and is intended to be used as a guide in the selection and prioritization of eligible projects. The Selection Criteria as revised follows:

**Nashville Area MPO**  
**2035 Regional Plan - Project Evaluation Factors**  
**ENDORSED BY EXECUTIVE BOARD, MARCH 17, 2010**

**Factors in Evaluating Projects for the 2035 Regional Transportation Plan**

**1. Congestion Management**

- a. What are the root causes of congestion in the vicinity of the project location (e.g., traffic volume, physical design, crashes, regulations, behavioral, freight, etc.)?
- b. Given the land uses, urban design and community goals for the project vicinity, what level of congestion is appropriate for the project and vicinity (i.e. some commercial centers/Downtowns need greater congestion for visibility/economic development)?
- c. How well does the project address those causes?
- d. How could the project be scoped to include congestion management solutions to optimize its benefit?

**2. Multi-Modal Choices**

- a. How well does the project introduce, support, or reinforce multiple transportation choices for people to access residences, jobs, schools, food, entertainment, etc?
- b. How can the project be scoped to incorporate facilities for and/or connections to non-motorized modes and transit?

**3. Freight & Goods Movement**

- a. How well does the project support or harm the movement of freight and goods through the region?
- b. How can the project be scoped to incorporate facilities that aid in the safe and efficient movement of freight?
- c. How can the project be scoped to balance the movement of freight and goods with other community goals?

**4. Safety & Security**

- a. How well does the project address safety concerns for all users?
- b. Is the project in a high-crash corridor?
- c. How can the project be scoped to increase safety of all users?
- d. How well does the project address security concerns?
- e. Does the project aid/ harm important evacuation routes?
- f. How can the project be scoped to features that help secure citizens and regional resources?

**5. System Preservation**

- a. How well does the project make use of limited financial resources to ensure the continued productivity of the existing transportation system?
- b. How can the project be scoped to include features the make the facility more efficient (e.g., ITS, design, materials, etc.)

## **6. Quality Growth/ Sustainable Land Development**

- a. How well does the project encourage infill/ redevelopment?
- b. Do area plans call for mixed-used, higher density development? If so, how does the project complement these plans?
- c. Is the project encouraging growth in areas where growth is planned or desired?
- d. Conversely, is the project encouraging growth in areas where additional growth is not planned or desired?
- e. Does the project enhance or contribute to the form and function quality of the surrounding community?

## **7. Economic Prosperity**

- a. How well does the project support or stimulate the local/ regional economy?
- b. How well does the project support freight movements?
- c. To what degree does the implementation of the project create jobs?
- d. How well does the facility connect people with opportunities to engage in economic activity?
- e. To what degree does the project aid in the region's economic competitiveness with other metro areas of the nation?
- f. Is the project supported by business leaders?

## **8. Health & Environment**

- a. Does the project aid/ harm in the preservation of the region's natural or socio-cultural resources (e.g., open space, animal habitat, historic structures, places of worship, community centers, etc.)?
- b. How can the project be scoped to mitigate the negative impacts to valuable resources?
- c. How well does the project support efforts to reduce dependency on fossil fuels, particularly foreign oil?
- d. How well does the project support efforts to improve air and water quality?
- e. Does the project include facilities that provide opportunities for active transportation/ physical activity?
- f. Does the project aid/ harm the advancement of social justice and equal opportunity to destinations throughout the region?
- g. How can the project be scoped to mitigate any negative impacts to predominately low-income or minority communities or persons with a disability?

## **9. Local Support/ Consistency with Plans**

- a. Is the project consistent with local, state, or other regional plans for growth and preservation (economic development, land use, natural features preservation, etc.)?
- b. Has the project been endorsed locally through the adoption of official instruments such as, but not limited to, a local major thoroughfare plan, transportation element of a comprehensive plan, or by resolution of the local governing body?
- c. If on a state-route, is the project endorsed or supported by TDOT?

**Nashville Area Metropolitan Planning Organization**  
**2035 Regional Transportation Plan | Project Scoring Key**

Draft Implementation of Project Evaluation Criteria Endorsed by MPO Executive Board on March 17, 2010

<b>EVALUATION CRITERIA</b>	<b>POINTS</b>
<b>TOTAL POSSIBLE POINTS</b>	<b>100</b>
<b>SYSTEM PRESERVATION &amp; ENHANCEMENT</b>	<b>15</b>
Project Improves Existing Route	Up to 15*
Project Improves an Intersection	3
2008 AADT Index to Average per Functional Class	Value
Project Upgrades Route to Context Sensitive/ Prescribed Design Standards	*# Strategies X 3 for Existing Route
Project Addresses Major Maintenance (e.g., bridge repair, general aging, etc.)	
Project Integrates ITS Technology, Signalization, Wayfinding	
Project Integrates Multi-Modal Upgrades	
<b>QUALITY GROWTH, SUSTAINABLE DEVELOPMENT, &amp; ECONOMIC PROSPERITY</b>	<b>15</b>
Project Improves Accessibility and/or Connectivity to Existing Residential Population	Density/100
Project Improves Accessibility and/or Connectivity to Existing Jobs	Density/1000
Project Located ENTIRELY within Urban Growth Boundary	2
Project Located PARTIALLY within Urban Growth Boundary	1
Project Located ENTIRELY within Existing or Planned Mixed-Use or Employment Centers	2
Project Located PARTIALLY within Existing or Planned Mixed-Use or Employment Centers	1
Project Incorporates Streetscaping/ Enhancements	2
Project Corrects Poor Storm water Flow/ Drainage (Curb and Gutter)	2
Project Contributes to Grid Development/ Roadway Network Connectivity	1
Project Located In High Growth Areas	RES+EMP/10
<b>MULTI-MODAL OPTIONS</b>	<b>15</b>
Route Includes Existing Transit Service	3
Project Includes Transit Capacity (e.g., dedicated lanes, signal priority, HOV)	Up to 6
Project Includes Sidewalk Improvements (up to 7 depending on BPAC priority)	Up to 7
Project Includes Bicycle Facility Improvements (up to 7 depending on BPAC priority)	Up to 7
Project Includes Multi-Modal Treatments (e.g., x-walks, pullouts, shelters, etc)	Up to 4
<b>CONGESTION MANAGEMENT</b>	<b>10</b>
<b>Project Addresses Corridor Congestion</b>	
MPO Base Year Congestion (2008)	5
MPO Short-Term Congestion (2015)	4
MPO Mid-Term Congestion (2025)	3
MPO Long-Term Congestion (2035)	2
Congestion as Identified by Other Study or Observation	3
<b>Project Incorporates Congestion Management Strategies (MULTIPLIER:)</b>	<b>2</b>
Geometrical Improvement	ANY X2
Improvements to Access Management	
ITS/ Signalization Improvement	
Improvements to Turning Movements	
Improves Parallel Facility/ Contributes to Alternative Routing	
Provides Additional Non-Motorized Mode Capacity	
Transit Capacity	
Signage/ Wayfinding	
<b>SAFETY &amp; SECURITY</b>	<b>10</b>
Project Addresses Location with High Level of Crashes	Crashes/10th Mile/20
Project has Fatal Crashes	2
Project Improves Modal Conflict (e.g., traffic signals, grade separation, dedicated lanes)	3
Local High Crash Corridor Designation	1
State High Crash Corridor Designation	1
Project Located on Known Evacuation Route	1
Project Located on the Strategic Highway Network (STRANET)	1
Project Located on the National Highway System (NHS)	1
Primary Purpose of Project to Improve Safety	7

<b>EVALUATION CRITERIA</b>	<b>POINTS</b>
Secondary Purpose of Project to Improve Safety	5
<b>FREIGHT &amp; GOODS MOVEMENT</b>	<b>10</b>
Project Improves a Designated Truck Route	4
Project Improves High Volume Heavy Truck Route	Index
Project Improves High Volume Commercial Truck Route	Index
Project Design Accommodates Freight Flows	1
Route Serves Major Shipping/ Distribution Center	1
Route Serves Intermodal Center (e.g., rail yard, port, etc.)	1
Project Addresses Existing Freight/ Passenger Conflict	1
Project Provides Separation in Freight/ Passenger Movements (e.g., grade separation)	1
Project Impedes Efficient Delivery of Goods	-2
<b>HEALTH &amp; ENVIRONMENT</b>	<b>10</b>
Project Located in Health Impact Area	2
Project Provides Alt Transportation Choices for Traditionally Underserved Groups	#Options X #Groups
Project Provide Multi-Modal Options Near Schools	#Options X #Schools
Project Overlaps Environmental Conflict Areas	-2
Project Overlaps Environmental Challenge Areas	-2
<b>PROJECT HISTORY</b>	<b>15</b>
Project Located within the Federal Aid Urban Boundary	1
Project Located on a Federal Aid Route	1
TDOT Support	2
TOP Local Priority	3
Programmed in Current LRTP	5
Programmed in Current TIP	10

**Planning Factors for All Projects (50 points available)**

<u>Factor</u>	<u>Measure</u>	<u>Points</u>
Replacement/ Expansion	100% Replacement .....	5
	75% Replacement/25% Expansion .....	4
	50% Replacement/50% Expansion .....	3
	25% Replacement/75% Expansion .....	2
	100% Expansion .....	1
Environmental Justice	Overall benefits (good to excellent) .....	5
	Overall benefits (fair to good) .....	3
	Overall benefits (none to fair) .....	0
Land Use Conformance	Consistent—comprehensive plan complete & current... 5	
	Consistent—comprehensive plan needs improvement.. 3	
	Inconsistent—no comprehensive plan .....	0
Air Quality/Energy (VMT,VHT & Emissions Reductions)	2 or more Reduced.....	6 to 10
	1 or more Reduced.....	0 to 5
Local Share OVER amount Required	30% or more additional .....	10
	25% or more additional .....	8
	20% or more additional .....	6
	15% or more additional .....	4
	10% or more additional .....	2
	Required local amount.....	0
Travel Modes Improved	2 new modes introduced.....	add 2
	1 new mode introduced .....	add 1
	3 modes accommodated .....	3
	2 modes accommodated .....	2
	1 mode accommodated .....	1
Intermodal Connectivity	Creates new connections .....	5
	Maintains existing connections .....	3
	Eliminates connections.....	0
Existing Condition	Critical.....	5
	Poor.....	3
	Fair .....	1
	Good.....	0

**Benefit/Cost for All Projects, in millions (10 points available)**

Greater than 1,000.....	add 10
Greater than 100.....	add 8
Greater than 10 .....	add 6
Greater than 5 .....	add 4
Greater than 1 .....	add 2