

AGENDA

LAKE COUNTY DRAINAGE BOARD and ADVISORY COMMITTEE WEDNESDAY, JUNE 15, 2016

*Advisory Committee Meeting-8:00 A.M. Drainage Board Meeting-9:00 A.M.
Both Meetings Held in the Commissioner's Courtroom, Lake County Government Center
2293 North Main Street, Crown Point, IN 46307 Phone-219-755-3745 Fax 219-755-3750*

Lake County Drainage Board

**Gerry J. Scheub, Chairman
Michael C. Repay, Member
Kyle Allen, Sr., Member
Peter Katic, Drainage Board Attorney**

Technical Support

**Bill Emerson Jr., Lake County Surveyor
Daniel V. Gossman, Drainage Administrator
Rich Budziak, MS4 Coordinator
Clifford E. Duggan Jr., Legal Consultant
Mary Ellen Kupsik, Drainage Board Secretary**

NOTE: All motions and votes by the Advisory Committee are recommendations to the Lake County Drainage Board and are not final actions. The Lake County Drainage Board is the agency having the authority to act under Indiana Statute.

1. Meeting Called to Order – Pledge of Allegiance

A. Emergency Exit Announcement: In case of emergency, exit the Commissioners Courtroom and proceed to the stairs and go to the second floor and exit the building. Do not enter an elevator in an emergency. If you require assistance, an employee will escort and/or assist you. Please silence any cellular telephones during this meeting. If you receive a call/text during this meeting, please excuse yourself with as little disruption as possible.

2. Roll Call

3. Agenda

- A. Additions, Deletions, and/or Corrections**
- B. Permission to Open Bids/Proposals**

4. Minutes

- A. May 18, 2016**

5. Reports – Correspondence – Information for the Record

- A. Advisory Committee By Township**

B. Little Calumet River Watershed

1. Turkey Creek Lateral No. 6, Merrillville, Ross Twp.

- Letter from Drainage Administrator Dan Gossman to Merrillville Stormwater Management Board President Bud Crist regarding invoice for Merrillville storm sewer connection.

2. Graper Ditch, Winfield, Winfield Twp.

- Letter from Drainage Administrator Dan Gossman to Winfield Zoning & Planning Director Nick Bellar regarding "Cease & Desist" for construction of a residence.
- Letter from Drainage Administrator Dan Gossman to Zoning & Planning Director Nick Bellar regarding lifting the "Cease & Desist".

3. Spring Street Ditch, Highland, North Twp.

- Letter from property owner Jocelyn Riley to US Army Corps of Engineers regarding trees and debris in Spring Street Ditch.
- Letter from Spring Creek Condominium Association to County Surveyor Bill Emerson, Jr. regarding trees in Spring Street Ditch.
- Letter from Congressman Peter Visclosky to Jocelyn Riley regarding Spring Street Ditch.
- Letter from Drainage Administrator Dan Gossman to County Surveyor Bill Emerson, Jr., regarding inspection at Spring Street Ditch.

4. Cady Marsh Ditch, Griffith, Calumet Twp.

Indiana Department of Natural Resources (IDNR) "Certificate of Approval" for "Construction in a Floodway" for Wisconsin Central Limited regarding Cady Marsh Ditch, near Griffith, Indiana.

5. Indiana Department of Natural Resources (IDNR) "Certificate of Approval" for "Construction in a Floodway" for BP Products regarding Indiana Harbor Canal, near Hammond, Indiana.

6. Indiana Department of Natural Resources (IDNR) "Certificate of Approval" for "Construction in a Floodway" for Lake County Highway Department regarding Grand Calumet River, near East Chicago, Indiana.

7. Letter from Drainage Administrator Dan Gossman to County Surveyor Bill Emerson Jr., and County Commissioner Gerry Scheub regarding regulated drain determination.

8. Letter/Report from Asst Drainage Administrator Tom Regalado to County Surveyor Bill Emerson, Jr. regarding Clearing & Snagging Crew activity.

9. Spring Street Ditch, Schererville, St John Twp.

- Letter/report from Al Walus (CBBEL) to County Surveyor Bill Emerson, Jr., regarding completion of previously approved application from Enbridge Pipeline.

10. Turkey Creek Lateral No. 6, Hobart Twp.

- Review and recommendation for approval of payment of \$800.00 from Assistant Drainage Administrator Tom Regalado. Contractor: Tom Larson

11. Other.

C. Kankakee River Watershed

1. Press Release from the U.S. Department of the Interior regarding "New National Recreation, Water Trails".

2. Other

D. Current Projects - Little Calumet River Watershed

1. Hart Ditch, St John Twp. (State Line to US Highway 30, - Dyer)

2. Niles Ditch, Center & Winfield Twps. (113th to Gibson Street)

3. **Cady Marsh Ditch - Highland, North Twp.** (Hart Ditch to Cline Ave, Highland)
 - Review and recommendation for approval of partial payment of \$70,029.80 from Al Walus (CBBEL). Contractor: KDM Services, LLC.
4. **Turkey Creek Lateral # 3 – Scherwood Golf Course, Schererville, St John Twp.**
 - Review and recommendation for approval of final payment of \$12,078.30 from Drainage Administrator Dan Gossman. Contractor: Austgen Equipment.
5. **Cady Marsh Ditch – Griffith, Calumet Twp.** (Cline Ave to Colfax St, Griffith)
 - Review and recommendation for approval of partial payment of \$9,656.00 and final payment of \$10,422.15 from Drainage Administrator Dan Gossman. Contractor: Delta III Inc.
6. **Turkey Creek Lateral #6–Emergency Culvert Replacement, Ross Twp.** (61st Ave)
 - Review and recommendation for approval of final payment of \$11,245.05 from Drainage Administrator Dan Gossman. Contractor: Delta III Inc.
7. **Main Beaver Dam Ditch, St John Twp.,** (East of Blaine Street)
 - Review and recommendation for approval of final payment of \$10,425.75 from Drainage Administrator Dan Gossman. Contractor: Delta III Inc.
8. **Turkey Creek Lateral No. 13 – Bank Stabilization, Schererville, St John Twp.**
 - “Notice of Award” to Austgen Equipment from Drainage Administrator Dan Gossman.
9. **Other**

E. Current Projects - Kankakee River Watershed

1. **West Creek Maintenance, Hanover Twp.** (125th Ave to 133rd Ave)
2. **Singleton Ditch Maintenance US 41 to Monon Road – Phase II, Cedar Creek Twp.** (Cedar Creek to Monon Road)
3. **Ernie Niemeyer Creek & Levee – Phase IV, West Creek Twp.** (Stateline to US 41)
4. **Stoney Run Ditch West Branch – Emergency Bank Repair, Eagle Creek Twp.**
 - Review and recommendation for approval of final payment of \$3,379.73 from Drainage Administrator Dan Gossman. Contractor: Austgen Equipment.
5. **Other**

6. Applications / Petitions

A. Bull Run Ditch, St John Twp.

Applicant: James & Janice Nichols Agent: Landmark Engineering Ltd
 Application to “Perform Work”, and “Place Temporary/Permanent Structure” within regulated drain for the purpose of installing culvert crossing for development of Windy Knoll Estates.

- Review letter from Thomas Burke P.E., PhD., (CBBEL)

B. Stoney Run Ditch Lateral B, Winfield Twp.

Applicant: Mark & Tamara Anderson
 Application to “Perform Work”, and “Reduce Easement” within regulated drain for the purpose of building pole barn for storage of personal equipment.

C. Other

7. MS4 Water Quality

A. Capital Projects Status Report

1. **41st Avenue Storm Sewer Project, Calumet Twp.**
2. **133rd Avenue / S.R. 55 Storm Drainage Project, Center Twp.**
3. **Upper Beaver Dam Ditch Storage/Water Quality Project**
4. **Willowdale Sanitary Sewer – Phase II & III**

B. MS4 Information and Correspondence

C. Other.

8. Financial Issues

- A. Little Calumet River Watershed
- B. Kankakee River Watershed

9. Approve Plans/Advertise for Bids/Seek Proposals and/or Approve Plan Modifications

- A. Little Calumet River Watershed
- B. Kankakee River Watershed

10. Receive and Open Bids/Proposals

- A. Little Calumet River Watershed
- B. Kankakee River Watershed
 - 1. 2016 Singleton Ditch Maintenance, Cedar Creek Twp. (Monon Rd-Mississippi St)
 - Addendum No. 1
 - 2. 2016 Cedar Creek Maintenance, Cedar Creek Twp. (Lake Dalecarlia to 171st Ave)
 - Addendum No. 1
 - 3. 2016 McConnell Ditch Maintenance, Cedar Creek Twp. (Morse St to 171st Ave)
 - Addendum No. 1
 - 4. 2016 Stoney Run Ditch Middle Branch-Lateral No. 4, Winfield Twp. (145th Ave)
 - Addendum No. 1

11. Award Contracts, Approve Modifications, and/or Ratify Actions by County Surveyor

- A. Little Calumet River Watershed
- B. Kankakee River Watershed

12. Other Business

- A. Other

13. Adjournment

- A. The next meeting is scheduled for Wednesday July 20, 2016 in the Lake County Commissioners' Courtroom at 8:00AM Drainage Advisory Committee and 9:00AM Drainage Board.
- B. Motion to Adjourn.

MINUTES

LAKE COUNTY DRAINAGE BOARD

ADVISORY COMMITTEE

WEDNESDAY, MAY 18, 2016

Advisory Committee Meeting-8:00 A.M. Drainage Board Meeting-9:00 A.M.

*Both Meetings Held in the Commissioner's Courtroom, Lake County Government Center
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NOTE: All motions and votes by the Advisory Committee are recommendations to the Lake County Drainage Board and are not final actions. The Lake County Drainage Board is the agency having the authority to act under Indiana Statute.

1. Meeting Called to Order – Pledge of Allegiance

A. Emergency Exit Announcement: In case of emergency, exit the Commissioners Courtroom and proceed to the stairs and go to the second floor and exit the building. Do not enter an elevator in an emergency. If you require assistance, an employee will escort and/or assist you. Please silence any cellular telephones during this meeting. If you receive a call/text during this meeting, please excuse yourself with as little disruption as possible.

2. Roll Call

Tom Silich, Hobart Twp.; Milan Dakich, Ross Twp.; Larry Cope, Winfield Twp.; Harold Mussman, West Creek Twp.; Alice Dahl, Cedar Creek Twp.; and Ken Huseman, Hanover Twp. [6 Present, 5 Absent]. Also Present: Lake County Surveyor Bill Emerson, Jr.; Dan Gossman, Drainage Administrator; Legal Consultant, Clifford E. Duggan, Jr.; Mary Ellen Kupsik, Drainage Board Secretary; North Watershed Engineering Consultant, Thomas Burke of Christopher B. Burke Engineering; South Watershed Engineering Consultant, Brian Ralstin, American Structurepoint, Inc.

3. **Agenda**
A. Additions, Deletions, and/or Corrections

Dan Gossman requested the following additions to the Agenda. Item No. 5-D-5, "Change Order" for Cady Marsh Ditch Project-Griffith; Item No. 6-A. Drainage Board Application, and Item No. 9-B-4, Plans & Specifications for Stony Run Ditch, Middle Branch, Lateral #4. Motion to accept the above-stated additions and changes was made by **Alice Dahl**, seconded by **Milan Dakich**. Motion carried.

B. Permission to Open Bids/Proposals

4. **Minutes**
A. April 20, 2016

Tom Silich requested a motion to accept and approve the **April 20, 2016** Lake County Drainage Advisory Board Minutes. Motion to accept and approve same was made by **Alice Dahl** seconded by **Milan Dakich**. Motion carried.

5. **Reports – Correspondence – Information for the Record**
A. Advisory Committee By Township

Harold Mussman (West Creek) inquired as to the status of the Obligation Agreement between property owner, John Little and the Lake County Drainage Board. Brian Ralstin (ASI) responded that they are currently reviewing the Flood Insurance Study to determine what permits will be needed to do any remediation of work within the channel. **Mr. Mussman** also inquired as to the status of the brush along the Ernie Niemeyer Bridge by State Line. **Dan Gossman** stated that he will set up a meeting with Dan Nelson now that the property has been sold.

1. Letter from Frank Mrvan, North Township Trustee to County Surveyor Bill Emerson, Jr. regarding appointment of Jamie Blankman as North Township Advisory Committee Representative.

2. Certificate of Appreciation for Barney Stodola

Lake County Surveyor Bill Emerson, Jr. reported that **Barney Stodola** was a former Drainage Crew Supervisor under the Lake County Surveyor's Office who retired a few years ago. He did a lot of great work for Lake County, in general, and this is to recognize him for his efforts.

B. Little Calumet River Watershed

1. Indiana Department of Natural Resources "Certificate of Approval" for "Construction in a Floodway" to Indiana Department of Transportation for a twin bridge structures over Burns Ditch in Hobart.
2. Letter from Asst Drainage Admn Tom Regalado to County Surveyor Bill Emerson, Jr. regarding relocation of beavers and removal of dams.
3. **Cady Marsh Ditch, North Twp.**
Email from Natalie Conlon of NIPSCo to Drainage Administrator Dan Gossman regarding "inadvertent discharge" into Cady Marsh Ditch.
4. Other.

Dan Gossman requested that Item No. 5-B-1, 2 & 3 be made a "Matter of Public Record". Motion to make Item No. 5-B-1, 2 & 3 a "Matter of Public Record" was made by **Alice Dahl**, seconded by **Milan Dakich**. Motion carried.

C. Kankakee River Watershed

1. Kankakee River, Cedar Creek Twp.

- Email from Elisa Abraham, Enterprise Products to County Surveyor Bill Emerson, Jr. regarding pipeline work near the Kankakee River.
- Letter from Drainage Administrator Dan Gossman to Elisa Abraham regarding review of request.

2. M.J. Brown Ditch, Eagle Creek Twp.

- Letter from Luella Hillen, CEC to County Surveyor Bill Emerson, Jr. regarding the INDOT replacement of State Route 2 bridges over M.J. Brown Ditch.

Dan Gossman stated that both he and **Lake County Surveyor Emerson, Jr.** have met with INDOT and Property Owner, John Bryant, from Bryant Farms, regarding this project to ensure that everything is done properly. Surveyor Emerson Jr. reported that INDOT has been providing the Surveyor's Office with all their hydraulic calculations to review.

3. McConnell Ditch-Cedar Creek-Singleton Ditch, Cedar Creek Twp.

Post Tribune news article regarding the Public meetings held with property owners.

4. Letter from Asst Drainage Admn Tom Regalado to County Surveyor Bill Emerson, Jr. regarding relocation of beavers and removal of dams.

5. Other

Dan Gossman requested that Item No. 5-C-1, 2, 3, & 4 be made a "Matter of Public Record". Motion to make Item No. 5-C-1, 2, 3 & 4 a "Matter of Public Record" was made by **Alice Dahl**, seconded by **Milan Dakich**. Motion carried.

D. Current Projects - Little Calumet River Watershed

1. Hart Ditch, St John Twp. (State Line to US Highway 30, - Dyer)

2. Niles Ditch, Center & Winfield Twps. (113th to Gibson Street)

3. Cady Marsh Ditch - Highland, North Twp. (Hart Ditch to Cline Ave, Highland)

- Review and recommendation for approval of partial payment of \$64,274.73 from Al Walus (CBBEL). Contractor: KDM Services, LLC.
- Letter from Al Walus (CBBEL) to County Surveyor Bill Emerson, Jr. regarding recommendation for approval of change order for "Scope of Work Reductions" in the amount of \$7,727.00. Contractor: KDM Services, LLC.
- Review and recommendation for approval of partial payment of \$43,293.05 from Al Walus (CBBEL). Contractor: KDM Services, LLC.

Dan Gossman requested a recommendation for approval for partial payments to KDM Services, LLC in the amounts of \$64,274.73 and \$43,293.05, along with a change order for "Scope of Work Reduction" in the amount of \$7,727.00. Motion to approve same was made by **Alice Dahl**, seconded by **Milan Dakich**. Motion carried.

4. Turkey Creek Lateral # 3 – Scherwood Golf Course, Schererville, St John Twp.

- Review and recommendation for approval of partial payment of \$68,443.70 from Drainage Administrator Dan Gossman. Contractor: Austgen Equipment.

Dan Gossman requested a recommendation for approval for partial payment to Austgen Equipment in the amount of \$68,443.70. Motion to approve same was made by **Alice Dahl**, seconded by **Milan Dakich**. Motion carried.

5. **Cady Marsh Ditch – Griffith, Calumet Twp. (Cline Ave to Colfax St, Griffith) HANDOUT” Review and recommendation from CBEL for additional erosion blanket.**

Dan Gossman requested a recommendation for approval for additional erosion control blankets in the amount of \$11,360.00 to Delta III. Motion to approve same was made by **Milan Dakich**, seconded by **Alice Dahl**. Motion carried.

6. **Turkey Creek Lateral #6–Emergency Culvert Replacement, Ross Twp. (61st Ave)**
7. **Main Beaver Dam Ditch, St John Twp., (East of Blaine Street)**
8. **Other**

E. Current Projects - Kankakee River Watershed

1. **Brown Levee Ditch – Emergency Levee Repair, Eagle Creek Twp.**
 - Review and recommendation for approval of final payment of \$2,000.00 from Drainage Administrator Dan Gossman. Contractor: RA Oros.

Dan Gossman requested a recommendation for approval for final payment to R.A. Oros in the amount of \$2,000.00. Motion to approve same was made by **Milan Dakich**, seconded by **Alice Dahl**. Motion carried.

2. **West Creek Maintenance, Hanover Twp. (125th Ave to 133rd Ave)**
3. **Singleton Ditch Maintenance US 41 to Monon Road – Phase II, Cedar Creek Twp. (Cedar Creek to Monon Road)**
 - Review and recommendation for approval of partial payment of \$61,495.80 from Drainage Administrator Dan Gossman. Contractor: RA Oros.

Dan Gossman requested a recommendation for approval for partial payment to R.A. Oros in the amount of \$61,495.80. Motion to approve same was made by **Alice Dahl**, seconded by **Milan Dakich**. Motion carried.

4. **Ernie Niemeyer Creek & Levee – Phase IV, West Creek Twp. (Stateline to US 41)**
5. **Stoney Run Ditch West Branch – Emergency Bank Repair, Eagle Creek Twp.**
 - Review and recommendation for approval of partial payment of \$19,151.77 from Drainage Administrator Dan Gossman. Contractor: Austgen Equipment.

Dan Gossman requested a recommendation for approval for partial payment to Austgen Equipment in the amount of \$19,151.77. Motion to approve same was made by **Milan Dakich**, seconded by **Alice Dahl**. Motion carried.

6. **Other**

F. Geographic Information System

6. Applications / Petitions

A. Main Beaver Dam Ditch, Center Twp.

Applicant: St George Serbian Orthodox Church

Application to "Perform Work", and "Place Temporary/Permanent Structure" within regulated drain for the purpose of replacing failed culvert crossing.

Dan Gossman reported that the St. George Serbian Orthodox Church owns farm ground with a failed culvert crossing in a county regulated drain and want to replace the existing, collapsed tank car with a new "in kind" culvert. He recommended requesting approval with the condition they receive the appropriate state and federal permits. Motion to approve same was made by **Milan Dakich**, seconded by **Alice Dahl**. Motion carried.

B. Other

7. MS4 Water Quality

A. Capital Projects Status Report

1. **41st Avenue Storm Sewer Project, Calumet Twp.**
2. **133rd Avenue / S.R. 55 Storm Drainage Project, Center Twp.**
3. **Upper Beaver Dam Ditch Storage/Water Quality Project**
4. **Willowdale Sanitary Sewer – Phase II & III**
 - Letter from MS4 Compliance Inspector Chris Brown to County Surveyor Bill Emerson, Jr. regarding status of Storm Water Pollution Prevention Plan (SWPPP).

Surveyor Emerson, Jr. reported that there has been a few outstanding good housekeeping issues with the contractor performing the work. This letter was sent to advise the contractor to keep the sediment off the roads and clean out the catch basins. His staff will follow-up.

5. Williams Street, Calumet Twp.

- Warranty Deed transferring ownership to Lake County Commissioners.

Surveyor Emerson, Jr. reported that this is an area that continually has flooding issues. He explained that for some reason, Williams Street was owned by a property owner and never dedicated to Lake County. We have now transferred the property to Lake County, so we can address the drainage issues out at this location.

B. MS4 Information and Correspondence

C. Other.

8. Financial Issues

A. Little Calumet River Watershed

B. Kankakee River Watershed

9. Approve Plans/Advertise for Bids/Seek Proposals and/or Approve Plan Modifications

A. Little Calumet River Watershed

B. Kankakee River Watershed

1. **2016 Singleton Ditch Maintenance, Cedar Creek Twp.** (Monon Rd-Mississippi St)
2. **2016 Cedar Creek Maintenance, Cedar Creek Twp.** (Lake Dalecarlia to 171st Ave)
3. **2016 McConnell Ditch Maintenance, Cedar Creek Twp.** (Morse St to 171st Ave)
4. **2016 Stoney Run Ditch Middle Branch-Lateral No. 4**

Dan Gossman requested recommending approval for the plans and specifications and advertise for bids on the above-listed four projects and be turned in and opened at next month's meeting on June 15, 2016. Motion to approve same was made by **Larry Cope**, seconded by **Alice Dahl**. Motion carried.

10. Receive and Open Bids/Proposals

- A. Little Calumet River Watershed**
- B. Kankakee River Watershed**

11. Award Contracts, Approve Modifications, and/or Ratify Actions by County Surveyor

A. Little Calumet River Watershed

1. Turkey Creek Lateral No. 13 – Bank Stabilization, St John Twp.

- Summary of Bids
- Letter from Don Oliphant, P.E. (CBBEL) review of bids
- Contract for Austgen Equipment

Dan Gossman requested recommending awarding this contract to the lowest, most responsive, responsible bidder, Austgen Equipment in the amount of \$45,984.00. Motion to approve same was made by **Alice Dahl**, seconded by **Milan Dakich**. Motion carried.

B. Kankakee River Watershed

12. Other Business

A. Resolution Opposing the Proposed Great Lakes Basin Transportation Rail Line.

Alice Dahl thanked **Lake County Surveyor Bill Emerson, Jr.** and his staff in preparing this Resolution for execution.

Alice Dahl and Milan Dakich inquired about having a big screen to view various projects being presented by either the public or Surveyor's staff in the Commissioner's Courtroom, since it is currently be abated and remodeled. **Commissioner Gerry Scheub**, who was present, commented that it is a very good suggestion and will take it under advisement.

B. Other

Linda Cosgrove (Eagle Creek Township) inquired as to the status of providing a quarry gauge on the Surveyor's website for the public to view the levels of water in the Singleton. **Surveyor Emerson** responded that he has been working towards getting that accomplished, but is struggling not having the proper technology through the County's Computer Data Department. **Ms. Cosgrove** inquired about installing a water level marker on Clay Street. **Surveyor Emerson, Jr.** stated that he would have that in place within the next few months.

Vince Casboni (9679 White Oak Avenue in St. John, IN) stated that there are two proposed subdivisions, which have been approved by the Town of St. John: The Preserve a 319-acre development, with 100 acres being woods, leaving 219 acres with 445 homes, and Greystone development with 119 homes. He stated that he is already getting flooded from the north and, after these two subdivisions are built, he fears more flooding will occur. He has addressed this to the Town of St. John and they seem not to care. **Surveyor Bill Emerson, Jr.** stated that the Surveyor's Office has preliminary plans, but the developer has not formally applied for a Drainage Application Permit. Upon receipt of same, Surveyor Emerson, Jr. reassured that a

thorough review will be performed to make certain the developer's calculations meet all the guidelines of the Lake County Stormwater Ordinance.

Arnold Reyes (1423 Edgewater Road) presented himself to verify that the Surveying Crew from Lake County Surveyor Bill Emerson, Jr.'s Office were coming out to his property tomorrow at 1:00 p.m. to assess a major bank erosion issue in his backyard on Main Beaver Dam Ditch. Surveyor Emerson, Jr. concurred.

13. Adjournment

A. The next meeting is scheduled for Wednesday June 15, 2016 in the Lake County Commissioners' Courtroom at 8:00AM Drainage Advisory Committee and 9:00AM Drainage Board.

B. Motion to Adjourn.

Meeting adjourned at 8:50 a.m.

MINUTES

LAKE COUNTY DRAINAGE BOARD WEDNESDAY, MAY 18, 2016

Advisory Committee Meeting-8:00 A.M. Drainage Board Meeting-9:00 A.M.
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2. Roll Call

Members Present: **Chairman Gerry Scheub** and Board Member, **Michael Repay**, Board Member **Kyle Allen** (joined the meeting). [3 Present, 0 Absent]. Also Present: **Lake County Surveyor Bill Emerson, Jr.**; Lake County Drainage Administrator, **Dan Gossman**; Drainage Board Attorney, **Peter Katic**; Lake County Drainage Consultant **Clifford E. Duggan, Jr.**; Drainage Board Secretary, **Mary Ellen Kupsik**; North Watershed Engineering Consultant, **Thomas Burke** of Christopher B. Burke Engineering; and South Watershed Engineering Consultant, and **Brian Ralstin**, American Structurepoint.

3. Agenda

A. Additions, Deletions, and/or Corrections

Dan Gossman requested the following additions to the Agenda. Item No. 5-D-5, "Change Order" for Cady Marsh Ditch Project-Griffith; Item No. 6-A. Drainage Board Application; Item No. 9-B-4, Plans & Specifications for Stoney Run Ditch, Middle Branch, Lateral #4, and one correction on 7-A-5 "Wilson Street" should read "Williams Street". Motion to accept the above-

stated additions and changes was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

B. Permission to Open Bids/Proposals

4. Minutes

A. April 20, 2016

Motion made by **Michael C. Repay** to approve the **April 20, 2016** Lake County Drainage Board Minutes, seconded by **Gerry Scheub**. Motion carried 2-0.

5. Reports – Correspondence – Information for the Record

A. Advisory Committee By Township

1. Letter from Frank Mrvan, North Township Trustee to County Surveyor Bill Emerson, Jr. regarding appointment of Jamie Blankman as North Township Advisory Committee Representative.

Lake County Surveyor Bill Emerson, Jr. welcomed **Jamie Blankman** as our newly chosen North Township Lake County Drainage Advisory committee Representative.

2. Certificate of Appreciation for Barney Stodola

Lake County Surveyor Bill Emerson, Jr. presented **Barney Stodola** with a “Certificate in Recognition for Dedicated Service”, which read as follows: “The Lake County Surveyor/Drainage Board recognizes Barney S. Stodola for 24 years of hard working service performed with dedication and enthusiasm as a Lake County Drainage and Surveyor Supervisor.”

Lake County Surveyor Bill Emerson, Jr.: *Barney is somewhat of a legend in the Surveyor’s Office and I have heard many stories about all his services to the community and to the Drainage Board. He was very instrumental on starting our Drainage Crew, which we all know really does the hard work on keeping our waterways flowing. He was a hard worker even up to the day he retired. Climbing ditch banks and moving stuff. I am really happy to present you this Certificate and thank you for all your services.*

Barney Stodola: *I loved my job. When I retired I was kind of disheartened, because I loved to work outside and work with the crew and with over 600 miles of regulated ditches that is quite a task to take care of. Thank you very much. I never expected this.*

B. Little Calumet River Watershed

1. Indiana Department of Natural Resources “Certificate of Approval” for “Construction in a Floodway” to Indiana Department of Transportation for a twin bridge structures over Burns Ditch in Hobart.
2. Letter from Asst Drainage Admn Tom Regalado to County Surveyor Bill Emerson, Jr. regarding relocation of beavers and removal of dams.
3. **Cady Marsh Ditch, North Twp.**
Email from Natalie Conlon of NIPSCo to Drainage Administrator Dan Gossman regarding “inadvertent discharge” into Cady Marsh Ditch.
4. Other.

C. Kankakee River Watershed

1. Kankakee River, Cedar Creek Twp.

- Email from Elisa Abraham, Enterprise Products to County Surveyor Bill Emerson, Jr. regarding pipeline work near the Kankakee River.
- Letter from Drainage Administrator Dan Gossman to Elisa Abraham regarding review of request.

2. M.J. Brown Ditch, Eagle Creek Twp.

- Letter from Luella Hillen, CEC to County Surveyor Bill Emerson, Jr. regarding the INDOT replacement of State Route 2 bridges over M.J. Brown Ditch.

3. McConnell Ditch-Cedar Creek-Singleton Ditch, Cedar Creek Twp.

Post Tribune news article regarding the Public meetings held with property owners.

4. Letter from Asst Drainage Admn Tom Regalado to County Surveyor Bill Emerson, Jr. regarding relocation of beavers and removal of dams.

5. Other

Dan Gossman requested making Item Nos. 5-B & C a Matter of Public Record. Motion to approve same was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

D. Current Projects - Little Calumet River Watershed

1. Hart Ditch, St John Twp. (State Line to US Highway 30, - Dyer)

2. Niles Ditch, Center & Winfield Twps. (113th to Gibson Street)

3. Cady Marsh Ditch - Highland, North Twp. (Hart Ditch to Cline Ave, Highland)

- Review and recommendation for approval of partial payment of \$64,274.73 from Al Walus (CBBEL). Contractor: KDM Services, LLC.
- Letter from Al Walus (CBBEL) to County Surveyor Bill Emerson, Jr. regarding recommendation for approval of change order for "Scope of Work Reductions" in the amount of \$7,727.00. Contractor: KDM Services, LLC.
- Review and recommendation for approval of partial payment of \$43,293.05 from Al Walus (CBBEL). Contractor: KDM Services, LLC.

Dan Gossman requested approval for partial payments to KDM Services, LLC in the amounts of \$64,274.73 and \$43,293.05, along with a change order for "Scope of Work Reduction" in the amount of \$7,727.00. Motion to approve same was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

4. Turkey Creek Lateral # 3 – Scherwood Golf Course, Schererville, St John Twp.

- Review and recommendation for approval of partial payment of \$68,443.70 from Drainage Administrator Dan Gossman. Contractor: Austgen Equipment.

Dan Gossman requested approval for partial payment to Austgen Equipment in the amount of \$68,443.70. Motion to approve same was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

5. Cady Marsh Ditch – Griffith, Calumet Twp. (Cline Ave to Colfax St, Griffith)

Dan Gossman requested a recommendation for approval for additional erosion control blankets in the amount of \$11,360.00 to Delta III. Motion to approve same was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

E. Current Projects - Kankakee River Watershed

1. Brown Levee Ditch – Emergency Levee Repair, Eagle Creek Twp.

- Review and recommendation for approval of final payment of \$2,000.00 from Drainage Administrator Dan Gossman. Contractor: RA Oros.

Dan Gossman requested approval for final payment to R.A. Oros in the amount of \$2,000.00. Motion to approve same was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

2. West Creek Maintenance, Hanover Twp. (125th Ave to 133rd Ave)

3. Singleton Ditch Maintenance US 41 to Monon Road – Phase II, Cedar Creek Twp. (Cedar Creek to Monon Road)

- Review and recommendation for approval of partial payment of \$61,495.80 from Drainage Administrator Dan Gossman. Contractor: RA Oros.

Dan Gossman requested approval for partial payment to R.A. Oros in the amount of \$61,495.80. Motion to approve same was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

4. Ernie Niemeyer Creek & Levee – Phase IV, West Creek Twp. (Stateline to US 41)

5. Stoney Run Ditch West Branch – Emergency Bank Repair, Eagle Creek Twp.

- Review and recommendation for approval of partial payment of \$19,151.77 from Drainage Administrator Dan Gossman. Contractor: Austgen Equipment.

Dan Gossman requested approval for partial payment to Austgen Equipment in the amount of \$19,151.77. Motion to approve same was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

6. Other

F. Geographic Information System

6. Applications / Petitions

A. Main Beaver Dam Ditch, Center Twp.

Applicant: St George Serbian Orthodox Church

Application to “Perform Work”, and “Place Temporary/Permanent Structure” within regulated drain for the purpose of replacing failed culvert crossing.

Dan Gossman explained that this applicant owns farm ground on Main Beaver Dam Ditch and they have a tank car that has collapsed in the ditch and are requesting to replace it with a tank car of equal size to access the other side of their property. Dan requested approval with the condition that the Applicant applies for the appropriate state and federal permits for approval. Motion to approve same with the stated conditions was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

B. Other

7. MS4 Water Quality

A. Capital Projects Status Report

1. **41st Avenue Storm Sewer Project, Calumet Twp.**
2. **133rd Avenue / S.R. 55 Storm Drainage Project, Center Twp.**
3. **Upper Beaver Dam Ditch Storage/Water Quality Project**
4. **Willowdale Sanitary Sewer – Phase II & III**

Letter from MS4 Compliance Inspector Chris Brown to County Surveyor Bill Emerson, Jr. regarding status of Storm Water Pollution Prevention Plan (SWPPP).

Lake County Surveyor Bill Emerson, Jr. reported that this is a letter from MS4 Inspector Chris Brown explaining in detail some outstanding erosion control issues occurring at this site. The contractor has been notified to properly seed the area to prevent any more sediment from going into the storm sewers and Chris Brown will be following up.

5. **Williams Street, Calumet Twp.**

- Warranty Deed transferring ownership to Lake County Commissioners.

Lake County Surveyor Bill Emerson, Jr. explained that this deed is transferring the ownership of Williams Street to Lake County. He stated that there has been some standing water and flooding issues on this street and now we can legally move forward and rectify these issues by providing proper drainage improvements. Walsh & Kelly has agreed to perform the labor and we will provide the materials. **Mr. Repay** inquired as to when this project will be starting. **Rich Budziak** replied that DLZ is currently working up a plan, which should be finalized next week and we will move on from there.

B. MS4 Information and Correspondence

C. Other.

Rich Budziak reported that he and **Lake County Surveyor Bill Emerson, Jr.** and other staff members attended the 2016 Indiana Annual MS4 Conference in Indianapolis and were one of the nominees under "Outstanding MS4 Special Event" for our Annual MS4 Workshop.

Motion to make Item Nos. 7-A, B & C a Matter of Public Record was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

8. Financial Issues

A. Little Calumet River Watershed

B. Kankakee River Watershed

9. Approve Plans/Advertise for Bids/Seek Proposals and/or Approve Plan Modifications

A. Little Calumet River Watershed

B. Kankakee River Watershed

1. **2016 Singleton Ditch Maintenance, Cedar Creek Twp.** (Monon Rd-Mississippi St)
2. **2016 Cedar Creek Maintenance, Cedar Creek Twp.** (Lake Dalecarlia to 171st Ave)
3. **2016 McConnell Ditch Maintenance, Cedar Creek Twp.** (Morse St to 171st Ave)
4. **2016 Stoney Run Ditch Middle Branch-Lateral No. 4**

Dan Gossman requested recommending approval for the plans and specifications and advertise for bids on the above-listed four projects and be turned in and opened at next month's

meeting on June 15, 2016. Motion to approve same was made by **Michael C. Repay**, seconded by **Gerry Scheub**. Motion carried 2-0.

10. Receive and Open Bids/Proposals

- A. Little Calumet River Watershed**
- B. Kankakee River Watershed**

11. Award Contracts, Approve Modifications, and/or Ratify Actions by County Surveyor

A. Little Calumet River Watershed

1. Turkey Creek Lateral No. 13 – Bank Stabilization, St John Twp.

- Summary of Bids
- Letter from Don Oliphant, P.E. (CBBEL) review of bids
- Contract for Austgen Equipment

Dan Gossman requested approval to award this contract to the lowest, most responsive, responsible bidder, Austgen Equipment, in the amount of \$45,984.00. Motion to approve same was made by **Michael C. Repay** seconded by **Kyle W. Allen Sr.** Motion carried 3-0.

B. Kankakee River Watershed

12. Other Business

A. Resolution Opposing the Proposed Great Lakes Basin Transportation Rail Line.

This Resolution was made a "Matter of Public Record" by Michael C. Repay, seconded Kyle W. Allen, Sr. Motion carried 3-0.

B. Other

Linda Cozgrove (181st Avenue, Eagle Creek Township) asked if the Railroad Resolution is it going to be signed by all three Lake County Drainage Board members. **Mr. Repay** replied that it has been signed by two, and has been made a "Matter of Public Record" and a copy of it will be available from the Lake County Surveyor's Office.

Vince Casboni (9679 White Oak Avenue, St. John) discussed two proposed subdivisions approved by the Town of St. John. One is the Preserve with 445 homes on 319 acres and the second is Greystone a 119-acre site that consists of 84 single homes for a total of 595 homes. He claims that his property already floods from the North and questioned where the water runoff is going to go once these developments are established. **Chairman Gerry Scheub** explained that the developers have yet to submit formal Drainage Board Applications to review and **Mr. Casboni** is wanting this Board to be made aware that a drainage/flooding problem currently exists.

Joe Hero (St. John, Indiana) reiterated and supports **Mr. Casboni's** concerns and requested that the Drainage Board thoroughly review the plans for these subdivisions and recommended cleaning out Bull Run ditch and performing a comprehensive study of the ditch.

13. Adjournment

- A. The next meeting is scheduled for Wednesday June 15, 2016 in the Lake County Commissioners' Courtroom at 8:00AM Drainage Advisory Committee and 9:00AM Drainage Board.**
- B. Motion to Adjourn.**

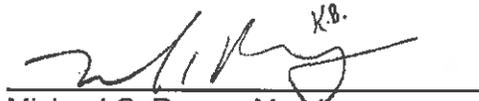
Motion to adjourn was made by **Michael C. Repay**, seconded by **Kyle W. Allen, Sr.** Motion carried 3-0. Meeting adjourned at 9:45 a.m.

APPROVED THIS 15th DAY OF JUNE, 2016

LAKE COUNTY DRAINAGE BOARD



Gerry Scheub, Chairman



Michael C. Repay, Member



Kyle W. Allen, Sr., Member

ATTEST: 

Mary Ellen Kupsik, Drainage Board Secretary



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

5-B-1
6-15-16

Bill Emerson, Jr.
County Surveyor

May 18, 2016

Bud Crist, President
Merrillville Stormwater Management Board
Town of Merrillville
7404 Broadway
Merrillville, Indiana 46410

Re: Turkey Creek Lateral No. 6 – Emergency Culvert Repair
61st Avenue (across from Intermediate School)
Merrillville, Ross Township

Dear Bud,

On February 17, 2016 the Lake County Surveyor was requested to solicit proposals by the Lake County Drainage Board for the Turkey Creek Lateral #6 – Emergency Culvert Replacement located on 61st Avenue east of Taft Street (S.R. 55) and across from Merrillville Intermediate School, Merrillville. The reason for this was due to a large sinkhole in the county regulated drain. During the replacement of the culvert, it was observed that a town stormsewer that was poorly connected to the regulated drain was a contributing factor to the sinkhole. Rather than reattach this storm drain to the new pipe, the contractor installed pvc to the existing cmp under the street and ran it parallel to the new pipe (see attached photos).

Therefore, please find enclosed an invoice in the amount of \$1,167.00 representing Merrillville's portion for this project. Upon receipt of this invoice, please provide a check made payable to the **Lake County Surveyor**.

If you have any questions, please feel free to contact our office. We look forward to our continued cooperative working relationship with you and the Merrillville Stormwater Department.

Sincerely,

Daniel V. Gossman
Lake County Drainage Administrator

Enclosure

cc: Bill Emerson, Jr., Lake County Surveyor
Tom Regalado, Asst Drainage Admn
Cliff Duggan, Legal Advisor
Milan Daklich, Ross Township Drainage Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
Matt Lake, Merrillville Stormwater Director



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

INVOICE

DATE: May 18, 2016

TO: Merrillville Stormwater Board

FROM: Bill Emerson, Jr., Lake County Surveyor
Lake County Drainage Board

REFERENCE: TURKEY CREEK LATERAL NO. 6 EMERGENCY CULVERT REPLACEMENT
61st Avenue (across from Merrillville Intermediate School)

Due in part to the failed storm sewer connection under 61st Avenue to Turkey Creek Lateral No. 6, the Lake County Surveyor/Lake County Drainage Board declared an "Emergency".

CONTRACT AMOUNT	=	\$68,500.00
ADDITIONAL MATERIAL	=	\$ 6,467.00
TOTAL PROJECT AMOUNT	=	<u>\$74,967.00</u>

Town of Merrillville	=	\$ 1,167.00
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TOTAL AMOUNT DUE: \$1,167.00

Please make check payable to: Lake County Surveyor



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

April 7, 2016

COPY

Bill Emerson, Jr.
Lake County Surveyor
2293 North Main Street
Crown Point, Indiana 46307

RE: 2016 Turkey Creek Lateral #6 – Emergency Culvert Replacement
Invoices #10184 & #10188 Review

Dear Bill,

I have reviewed the Invoice's from Delta III #10184 dated March 25, 2016 in the amount of \$58,225.00 and #10188 dated March 31, 2016 in the amount of \$5,496.95 (see attached) in reference to work on the Turkey Creek Lateral #6 – Emergency Culvert Replacement project. An inspection during the installation with Assistant Drainage Administrator Tom Regalado was made on March 18, 2016 and again on April 4, 2016.

After the inspection, staff confirms the invoice submitted is consistent with the work accomplished to date. Therefore, it is recommended that the contractor receive payment for the invoiced amount.

Should you have any questions or comments, or require additional information, please do not hesitate to let me know.

Sincerely,

Daniel V. Gossman
Drainage Administrator

Cc: Tom Regalado, Asst Drainage Admn
Cliff Duggan, Legal Advisor
Jean Shepherd, St John Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
Mike Eaton, Delta III Inc.



Office of the Lake County Surveyor

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Bill Emerson, Jr.
County Surveyor

COPY





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Bill Emerson, Jr.
County Surveyor

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Bill Emerson, Jr.
County Surveyor

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Bill Emerson, Jr.
County Surveyor

COPY





COPY

CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

March 25, 2016

Lake County Surveyor's Office
Lake County Government Center
2293 North Main Street
Crown Point, Indiana 46307

Attention: Bill Emerson, Jr. – Lake County Surveyor

Subject: Material Change Description / Cost Breakdown – Turkey Creek Lateral No. 6
Emergency Pipe Repair along 61st Ave. in Merrillville

Dear Mr. Emerson,

On March 18, 2016, there was a necessary change in material in the emergency repair of the corrugated metal pipe (CMP) conveying water from Turkey Creek Lateral No. 6 under 61st Ave. The plans called for the existing 60" CMP to be removed and replaced with a new 60" CMP. As Delta III, Inc. removed the existing pipe it was discovered that it was deformed and was no longer circular. It was also determined that it was approximately 22-inches above a gas pipeline and just below the Merrillville Conservancy District sewer. As a result the pipe was changed from a 60" CMP to a 48" high density polyethylene pipe (HDPE). This material was immediately ordered and delivered to the site the same day to allow work to proceed to fill the excavated area and exposed MCD pipe the same day. Not knowing how far the HDPE would extend into the 60" CMP and consequently the angle at which the 48" HDPE would turn to the outlet location, Delta III ordered 2 bends.

During the removal process, an existing 12" CMP lateral was discovered that crossed under 61st Ave and tied into the existing 60" CMP. To tie this lateral into the new 48" HDPE pipe, it would have had to be connected in the middle of a 45 degree bend. It was decided that it would be better to connect this existing 12" CMP to new 12" SDR 35 and run it along side of the 48" HDPE pipe downstream to its outfall.

Both of the changes discussed above had additional charges associated with them. The breakdown of those charges is shown below:

Change from 60" CMP to 48" HDPE

48" Sure-Lok HDPE pipe (60 FT)	\$2934.35
48" HDPE split coupling (4 EA)	\$461.74
48" HDPE 45 degree Sure-Lok bend	\$600.00
48" HDPE 22 degree Sure-Lok Bend	\$531.00
5% Markup on materials	\$226.36

COPY

Freight \$546.55
Total for this change: \$5,300.00

Addition of 12" SDR 35 lateral pipe

Materials: \$567.00

SDR35 45 degree bend (2EA)
SDR35 pipe (42 FT)
#8 Stone (2 TN)

Labor/Equipment: \$600.00

DX235 Backhoe (1 HR)
CTL70 Skidsteer (1 HR)
2 Operators (1 HR each)
2 Laborers (2 HR each)
1 Laborer Foreman (1 HR)

Total for this change: \$1,167.00

Grand total for all changes: \$6,467.00

After reviewing these changes and the attached invoices, Christopher B. Burke Engineering Ltd. recommends payment as shown above to Delta III, Inc. If you have any questions regarding this matter please feel free to contact me.

Sincerely,



Thomas T. Burke, Jr., PhD, PE
Vice President
Head, Water Resources Department

cc: Daniel Gossman, LCSO Drainage Administrator
David A. Dobson II, PE, CBBEL

COPY

Delta III Inc

2063 W 1250 S
Hanna, IN 46340
219 797-4004
fax 219 797-3008

March 21, 2016

Lake County Drainage Board
2293 N. Main Street
Crown Point, IN 46347

REQUEST FOR CHANGE ORDER

2016 Turkey Creek Lateral #6 – Emergency Culvert Replacement
61st Avenue East of Taft Street (S.R. 55), Merrillville – Ross Township

Materials
48" HDPE – 60 LFT
45 Degree Bend HDPE – 1 EA
Freight

Total Cost \$5,300.00

Underground Pipe & Valve, Inc.

PLEASE REMIT TO:

1428 MOMENTUM PLACE
CHICAGO, IL 60608 3014

INVOICE
COPY

Page 1/1

Sold To
DELTA III, INC.
2063 W. 1250 S.
HANNA IN 46340

Ship To
DELTA III, INC.
2063 W. 1250 S.
HANNA IN 46340

Customer #	Order Date	Sales Order #	Buyer	Customer P/O #	Ship Via	Station
0001667	03/18/2016	4006486			Pick Up	TC
Invoice #	Invoice Date	Ship Date	Freight Terms	Job Number	Terms	
P400512	03/23/2016	03/18/16	PREPAID		NET 30 DAYS	

LN	QTY ORD	QTY SHIP	QTY B/O	QTY PICK	PRODUCT NUMBER	DESCRIPTION	UOM	NET PRICE	EXTENSION
1	60	60			16046HSL20	48" SURE-LOK PIPE 20' 300 LB CASKE TED	FT	47.9059	\$2,874.35
2	4	4			SP*067856	48" SPLIT COUPLING * Above is a special order & * Non-Returnable item x:	Ea	115.4358	\$461.74
3	1	1			SP*068975	48" 45 SURE LOK * Above is a special order & * Non-Returnable item x:	Ea	600.00	\$600.00
4	1	1			SP*068978	40" 22 FOR SURE LOK * Above is a special order & * Non-Returnable item x:	Ea	531.00	\$531.00
.....Payment Received.....									
Suspended								0.00	

BY SIGNING THIS DOCUMENT YOU ACCEPT AND
ACKNOWLEDGE UPV, INC'S TERMS AND CONDITIONS.
THE SALE OF THE PRODUCTS OR SERVICES IDENTIFIED
HEREIN IS GOVERNED BY UPV, INC'S TERMS AND
CONDITIONS OF SALE, BY THE PORTS HEREIN (INCLUDING
ON THE REVERSE SIDE) (PRINT OR ATTACHED HEREIN),
WHICH ARE AN INTEGRAL PART OF THE SALE.

Merchandise	4,527.09
Freight	0.00
Misc Charges	0.00
Sub Total	4,527.09
Taxable	0.00
Tax (0%)	0.00
TOTAL	\$4,527.09

X: _____
Customer Signature:

POS Copy

Printed by: M7 16:27 03/23/2016 Order Number: _____

8/16/16
Franklin 15

Thomas Burke

From: Amy Lawrence <delta3amy@csinet.net>
Sent: Wednesday, March 23, 2016 10:29 AM
To: Thomas Burke
Cc: Dan Gossman
Subject: Re: Change order request Turkey Creek

COPY

Thomas,
Also Dan wanted a cost breakdown on the pipe tie ins from the Merrillville Stormsewer. Original bid was for 1-12" for \$1100.00
We also encountered another lateral which was run to the ditch instead of tying into the pipe.

Materials \$567.00

2-45 degree bends 12"
42 LFT 12" SDR35
#8 Stone 2 Ton

Labor \$600.00

DX235 w/operator - 1 hour
CTL70 w/ operator - 1 hour
(2) Laborer - 2 hours
Laborer Foreman - 1 hour

For a total of \$1167.00

----- Original Message -----

From: Thomas Burke
To: delta3amy@csinet.net
Cc: Daniel Gossman
Sent: Monday, March 21, 2016 10:17 AM
Subject: RE: Change order request Turkey Creek

Amy,

Can you provide the invoice Delta III received from the supplier for the HDPE pipe?

Thomas

Thomas T. Burke, Jr., PhD, PE
Vice President
Head, Water Resources Department
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Phone: (847) 823-0500 Fax: (847) 318-9793
E-Mail: tburke@cbbel.com

www.cbbei.com



Handout 5-B-2
6-13-16

CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX (847) 823-0520

June 13, 2016

Lake County Surveyor's Office
Lake County Government Center
2293 North Main Street
Crown Point, Indiana 46307

Attention: Mr. Bill Emerson, Jr. – Lake County Surveyor

Subject: Graper Ditch Culvert at State Street in Winfield
(CBBEL project No. 930169.0216)

Dear Bill:

Following up on our site meeting on May 31, 2016 at the site of Graper Ditch crossing State Street, I wanted to share with you my observations. The culvert conveying Graper Ditch, a regulated drain, measured approximately 48-inches in diameter and was a corrugated metal pipe (CMP). The CMP was in good shape not showing signs of deflection or corrosion around most of the pipe. There was minimal corrosion on the very bottom at the entrance and exit of the culvert.

Regarding the sink hole forming on the west side of State Street, just north of the culvert, I am uncertain as to the cause. The material is not falling into the culvert and the culvert has maintained its ability to convey the regulated ditch under State Street. Because State Street is a local road, it appears the sink hole is the Town of Winfield's responsibility.

If you have any questions, please don't hesitate to contact me.

Sincerely,



Thomas T. Burke, Jr., PhD, PE
Vice President
Head, Water Resources Department

5-B-2
6-15-16



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

May 23, 2016

Sent Via Email

Nick Bellar
Zoning & Planning Administrator
Town of Winfield
10645 Randolph Street
Winfield, Indiana 46307

RE: Graper Ditch
11260 State Street
Winfield, IN (Winfield Twp.)
Permit #16-070

Dear Mr. Bellar,

According to records in the Office of the Lake County Surveyor, there is a regulated drain located within the boundary of the proposed development located at 11260 State Street. Therefore, the Lake County Surveyor/Lake County Drainage Board has statutory authority over the proposed development, and no activity can take place within the regulated drainage easement (I.C. 36-9-27-33) without the written approval from the Lake County Drainage Board.

Please advise the owner/developer that all activity is to **"Cease and Desist"** until a Lake County Drainage Board application is approved.

The Lake County Surveyor's Office appreciates your cooperation concerning this matter. Should you have any questions, please do not hesitate to contact our office.

Sincerely,

Daniel V. Gossman
Drainage Administrator

cc: Bill Emerson, Jr., Lake County Surveyor
Tom Regalado, Asst Drainage Admn
Cliff Duggan, Legal Advisor
Peter Katic, Lake County Drainage Board Attorney
Larry Cope, Winfield Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
Winfield Town Council



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

5-B-2
6-15-16

Bill Emerson, Jr.
County Surveyor

May 24, 2016

Sent Via Email

Nick Bellar
Zoning & Planning Administrator
Town of Winfield
10645 Randolph Street
Winfield, Indiana 46307

RE: Graper Ditch
11260 State Street
Winfield, IN (Winfield Twp.)
Permit #16-070

Dear Mr. Bellar,

On Tuesday May 24, 2016, an on-site meeting was held with Phillippe Builders at 11260 State Street, Winfield. I along with Lake County MS4 Compliance Inspector Chris Brown reviewed the current conditions of the site for compliance with Lake County Stormwater Ordinance relating to activity within a county regulated drain.

During the inspection, silt fence was been installed around the perimeter of the site that had been disturbed. The contractor was also instructed to place erosion control blankets on the disturbed areas on the side-slopes of the Graper Ditch.

Phillippe Builders is also in the process of applying to the Lake County Drainage Board for the driveway culvert. At present, they have a 36" CMP which has not been properly sized nor approved by the county. We have agreed that this will be considered a "temporary" crossing until such approval is given for the correct sized pipe.

Therefore, the Lake County Surveyor/Lake County Drainage Board has lifted the "cease and desist" for the permit #16-070. The Lake County Surveyor's Office appreciates your cooperation concerning this matter. Should you have any questions, please do not hesitate to contact our office.

Sincerely,


Daniel V. Gossman
Drainage Administrator

cc: Bill Emerson, Jr., Lake County Surveyor
Tom Regalado, Asst Drainage Admn
Cliff Duggan, Legal Advisor
Peter Katic, Lake County Drainage Board Attorney
Larry Cope, Winfield Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
Winfield Town Council
Phillippe Builders



*Bill Emerson, Jr.
County Surveyor*

Office of the Lake County Surveyor

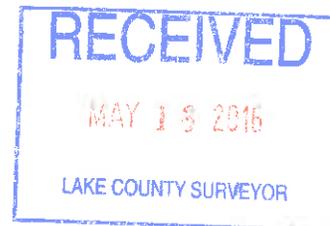
Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750



5-B-3
6-15-16

Jocelyn Riley

9316 Spring Creek Drive
Apt. 2
Highland, IN 46322



May 13, 2016

Army Corps of Engineers
Chicago District-
231 South LaSalle
Chicago, IL 60604

Dear Sir or Madam:

I reside in a condominium located one block east of the 9300 block of Indianapolis Boulevard, alongside Spring Creek in Highland, Indiana. My concern is the state of Spring Creek. The creek and its banks belong to Lake County, Indiana, and are overseen by the Lake County Surveyor's Office at the County Government Center in Crown Point, Indiana. For several years the county has neglected the creek and its banks. Erosion of the banks is rampant. The running water has exposed the roots of trees along the banks. Currently, the standing trees are in an unstable state. Since last fall we have a number of fallen trees. Two have fallen on the property of the condominiums. It took the county almost 6 months to remove one from our property. And then they just left the tree on its side just inches off the property. A second tree fell on our property earlier this week on May 11.

This week the heavy rains and winds of May 11 brought down 4 trees, 3 of which fell into the creek. The limbs of these fallen trees are catching debris and will slow the flow of water from areas south, thereby increasing the chances of flooding. Other trees on the bank with exposed roots are leaning into nearby trees, thus weakening the supporting trees. These leaning trees will eventually fall to the banks or into the creek or onto the condo grounds and buildings.

As president of the Spring Creek Condominium Association, I deplore the county's neglect of this creek, its banks, and the citizens who reside near the creek. The safety of our buildings and residents is compromised by the falling trees, and the once appealing landscape is now cluttered with dead and dying trees, old stumps and logs, as well as trash caught up in the several tree limbs submerged in the creek itself.

I am hoping your government agency will act to rectify this situation in which our county government has failed.

Jocelyn Riley



5-B-3
4-15-16

Spring Creek Condominium
Association, Inc.

Memo

To: Lake County Surveyor
From: Peter Bylen
Date: 5/17/2016
Re: County property west of condos

Recent storms took down 4 trees on the county creek banks behind 9316, 9320 and 9324 Spring Creek Drive. These need to be removed as they fell on turf that will otherwise die. Furthermore additional trees fell into the creek slowing and blocking water flow. Please confirm that this matter will get the county's attention.



Peter Bylen, Property Manager
1st American Management Company, Inc., as Agent for
Spring Creek Condominium Association, Inc.
3408 Enterprise Avenue
Valparaiso IN 46383
(219) 464-3536 x 310
(219) 465-6014, fax
pbylen@1stpropertymanagers.com

RECEIVED

MAY 19 2016

LAKE COUNTY SURVEYOR

PETER J. VISCLOSKY
1ST DISTRICT, INDIANA

COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEES:
RANKING MEMBER, DEFENSE
ENERGY AND WATER DEVELOPMENT
CONGRESSIONAL STEEL CAUCUS
VICE CHAIRMAN
U.S. HOUSE LAW ENFORCEMENT
CAUCUS

Congress of the United States
House of Representatives
Washington, DC 20515-1401

5-B-3
4-15-16
2258 RAYBURN BUILDING
WASHINGTON, DC 20515-1401
(202) 225-2461
7895 BROADWAY, SUITE A
MERRILLVILLE, IN 46410
(219) 795-1844
Call Toll Free
1 888 423 PETE
(1 888 423-7383)
INTERNET:
<http://visclosky.house.gov>

May 17, 2016

Ms. Jocelyn Riley
9316 Spring Creek Drive, Apartment 2
Highland, Indiana 46322

Dear Jocelyn:

Thank you for your recent letter, and while it was good to hear from you, I was sorry to learn of the circumstances prompting you to write.

In your correspondence, you expressed concerns regarding the maintenance of Spring Creek. This matter does not fall under Congressional purview; therefore, I will forward your letter to the proper individual.

I am forwarding your request for assistance to Bill Emerson Jr., Lake County Surveyor. I am sure you will receive every consideration from his office. You may contact Lake County Surveyor Emerson at (219) 755-3745.

Again, thank you for bringing this matter to my attention.

Sincerely,



Peter J. Visclosky
Member of Congress

PJV:kr
cc: Bill Emerson Jr., Lake County Surveyor



5-B-3
6-15-16

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

May 24, 2016

Bill Emerson, Jr.
Lake County Surveyor
2293 North Main Street
Crown Point, Indiana 46307

RE: Spring Street Ditch – Inspection
9316 Spring Creek Drive, Highland
North Township

Dear Bill,

As per your direction, an inspection of the banks of the Spring Street Ditch was conducted on Tuesday May 24, 2016 at 9316 Spring Creek Drive in Highland. The inspection was prompted by landowner, Jocelyn Riley, with regard to the trees along the banks of the ditch (see attached photographs) and bank erosion. Ms. Riley explained in detail that the trees were hindering the flow and others had fallen on the top of the bank.

It is evident that the land within the easement is well kept by the Spring Creek Condominium Association by the appearance of the lawn, even the property not owned by the association. However, though we recognize that no action on our part is required by law, ordinance or precedent for trees that fall on top of the ditch banks, at your direction I will have our drainage clearing and snagging crew to inspect the site and remove the trees in question that are obstructing the flow.

Although there is minimal erosion in this area, the stream is functioning properly, and the minimal erosion does not rise to the level of a priority bank repair. The property owner should be aware that they are free to make whatever improvements they deem appropriate after applying to the Lake County Drainage Board.

Respectfully,

Daniel V. Gossman
Drainage Administrator

Encl

Cc: Gerry Scheub, Chairman Lake County Drainage Board
Tom Regalado, Assistant Drainage Administrator
Cliff Duggan, Legal Advisor
Peter Katic, Lake County Drainage Board Attorney
Jamie Blankman, North Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
Peter Visclosky, U.S. Congressman – 1st District Indiana
Jocelyn Riley, 9316 Spring Creek Drive Highland



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307

Phone: (219) 755-3745 • Fax: (219) 755-3750

*Bill Emerson, Jr.
County Surveyor*



MAY 16 2016

Jocelyn Riley

9316 Spring Creek Drive
Apt. 2
Highland, IN 46322



May 13, 2016

Army Corps of Engineers
Chicago District-
231 South LaSalle
Chicago, IL 60604

Dear Sir or Madam:

I reside in a condominium located one block east of the 9300 block of Indianapolis Boulevard, alongside Spring Creek in Highland, Indiana. My concern is the state of Spring Creek. The creek and its banks belong to Lake County, Indiana, and are overseen by the Lake County Surveyor's Office at the County Government Center in Crown Point, Indiana. For several years the county has neglected the creek and its banks. Erosion of the banks is rampant. The running water has exposed the roots of trees along the banks. Currently, the standing trees are in an unstable state. Since last fall we have a number of fallen trees. Two have fallen on the property of the condominiums. It took the county almost 6 months to remove one from our property. And then they just left the tree on its side just inches off the property. A second tree fell on our property earlier this week on May 11.

This week the heavy rains and winds of May 11 brought down 4 trees, 3 of which fell into the creek. The limbs of these fallen trees are catching debris and will slow the flow of water from areas south, thereby increasing the chances of flooding. Other trees on the bank with exposed roots are leaning into nearby trees, thus weakening the supporting trees. These leaning trees will eventually fall to the banks or into the creek or onto the condo grounds and buildings.

As president of the Spring Creek Condominium Association, I deplore the county's neglect of this creek, its banks, and the citizens who reside near the creek. The safety of our buildings and residents is compromised by the falling trees, and the once appealing landscape is now cluttered with dead and dying trees, old stumps and logs, as well as trash caught up in the several tree limbs submerged in the creek itself.

I am hoping your government agency will act to rectify this situation in which our county government has failed.

Jocelyn Riley



5-B-4
6-15-16



STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES



**CERTIFICATE OF APPROVAL
CONSTRUCTION IN A FLOODWAY**

APPLICATION # : FW-28305

MAILED: June 03, 2016

STREAM : Cady Marsh Ditch

APPLICANT : Wisconsin Central Limited
Aneesh Bethi
17641 South Ashland Avenue
Homewood, IL 60430



AGENT : Midwest Engineering Associates Inc
Josh L Auxier
140 East Washington Street
East Peoria, IL 61611

AUTHORITY : IC 14-28-1 with 312 IAC 10

DESCRIPTION : An existing single span open, steel Deck-Plate-Girder rail bridge will be replaced with a 25' long precast double voided box girders supported on the existing abutments. The alignment of track will remain unchanged. The proposed low beam elevation will be raised from 613.17' to 613.72'. A temporary access road and staging area will be constructed during the project. Details of the project are contained in information and plans received at the Division of Water on February 24, 2016 and March 31, 2016.

LOCATION : Approximately 1300' upstream of the North Broad Street and East Brinwood Drive intersection near Griffith, Calumet Township, Lake County
Section 26, T 36N, R 9W, Highland Quadrangle
UTM Coordinates: Downstream 4599167 North, 464724 East

APPROVED BY :
Larissa Muellner, CFM, Sr Environmental Manager
Division of Water

APPROVED ON : June 2, 2016

Included: Notice Of Right To Administrative Review - General Conditions - Special Conditions - Service List

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW

APPLICATION #: FW- 28305

This signed document constitutes the issuance of a permit by the Department of Natural Resources, subject to the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

The permit or any of the conditions or limitations which it contains may be appealed by applying for administrative review. Such review is governed by the Administrative Orders and Procedures Act, IC 4-21.5, and the Department's rules pertaining to adjudicative proceedings, 312 IAC 3-1.

In order to obtain a review, a written petition must be filed with the Division of Hearings within 18 days of the mailing date of this notice. The petition should be addressed to:

Director
Division of Hearings
Indiana Government Center North, Room N501A
100 North Senate Avenue
Indianapolis, Indiana 46204

The petition must contain specific reasons for the appeal and indicate the portion or portions of the permit to which the appeal pertains.

If an appeal is filed, the final agency determination will be made by the Natural Resources Commission following a legal proceeding conducted before an Administrative Law Judge. The Department of Natural Resources will be represented by legal counsel.

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

GENERAL CONDITIONS

APPLICATION #: FW- 28305

- (1) If any archaeological artifacts or human remains are uncovered during construction, federal law and regulations (16 USC 470, et seq.; 36 CFR 800.11, et al) and State Law (IC 14-21-1) require that work must stop and that the discovery must be reported to the Division of Historic Preservation and Archaeology within 2 business days.

Division of Historic Preservation and Archaeology
Room W274
402 West Washington Street
Indianapolis, IN 46204

Telephone: (317) 232-1646, FAX: (317) 232-8036

- (2) This permit must be posted and maintained at the project site until the project is completed.
- (3) This permit does not relieve the permittee of the responsibility for obtaining additional permits, approvals, easements, etc. as required by other federal, state, or local regulatory agencies. These agencies include, but are not limited to:

<u>Agency</u>	<u>Telephone Number</u>
Lake County Drainage Board	
Little Calumet River Basin Development Commission	(219) 595-0599
US Army Corps of Engineers	(312) 846-5539
Indiana Department of Environmental Management	(317) 233-8488 or (800) 451-6027
Local city or county planning or zoning commission	

- (4) This permit must not be construed as a waiver of any local ordinance or other state or federal law.
- (5) This permit does not relieve the permittee of any liability for the effects which the project may have upon the safety of the life or property of others.
-) This permit may be revoked by the Department of Natural Resources for violation of any condition, limitation or applicable statute or rule.
- (7) This permit shall not be assignable or transferable without the prior written approval of the Department of Natural Resources. To initiate a transfer contact:

Mr. Michael W. Neyer, PE, Director
Division of Water
Room W264
402 West Washington Street
Indianapolis, IN 46204

Telephone: (317) 232-4160, Toll Free: (877) 928-3755
FAX: (317) 233-4579

- (8) The Department of Natural Resources shall have the right to enter upon the site of the permitted activity for the purpose of inspecting the authorized work.
- (9) The receipt and acceptance of this permit by the applicant or authorized agent shall be considered as acceptance of the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES**

SPECIAL CONDITIONS

APPLICATION #: FW- 28305

PERMIT VALIDITY : This permit is valid for 24 months from the "Approved On" date shown on the first page. If construction work in the floodway has not been completed by June 02, 2018 the permit will become void. This permit may be renewed one (1) time if a written request is received by DNR, Division of Water prior to June 02, 2018. Thereafter the permit will become void and a new permit will be required in order to continue work on the project.

This permit becomes effective 18 days after the "MAILED" date shown on the first page. If both a petition for review and a petition for a stay of effectiveness are filed before this permit becomes effective, any part of the permit that is within the scope of the petition for stay is stayed for an additional 15 days.

CONFORMANCE : Other than those measures necessary to satisfy the "General Conditions" and "Special Conditions", the project must conform to the information received by the Department of Natural Resources on: February 24, 2016 and March 31, 2016. Any deviation from the information must receive the prior written approval of the Department.

<u>Number</u>	<u>Special Condition</u>
(1)	revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion
(2)	do not excavate in the waterway and minimize disturbance to bank vegetation and contain disturbance to within the project limits
(3)	do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife
(4)	do not construct any temporary runarounds, causeways, cofferdams, diversions, or pumparounds without approval from the Division of Fish and Wildlife
(5)	operate equipment used to replace the bridge from the existing railroad corridor or temporary staging and access areas only
(6)	do not deposit or allow demolition/construction materials or debris to fall or otherwise enter the waterway
(7)	appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized
(8)	seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas
(9)	except for the material used as backfill as shown on the above referenced project plans on file at the Division of Water, place all excavated material landward of the floodway *
(10)	do not leave felled trees, brush, or other debris in the floodway *
(11)	upon completion of the project, remove all construction debris from the floodway *

**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES**

SPECIAL CONDITIONS

APPLICATION #: FW- 28305

- (12) issuance of this Certificate does not constitute approval of any temporary causeways, coffer dams, runarounds, access bridges or borrow areas associated with the proposed bridge construction; separate written approval must be obtained from the Department for these types of projects prior to beginning any work within the floodway *
- (13) keep the waterway opening within the scope of this project free of debris and sediment at all times
- (14) * Note: for regulatory purposes, the floodway is defined as that shown on by the base flood as shown on Panel 141 of the Griffith Flood Insurance Rate Map dated March 16, 2016

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 28305

Wisconsin Central Limited
Aneesh Bethi
17641 South Ashland Avenue
Homewood, IL 60430

Midwest Engineering Associates Inc
Josh L Auxier
140 East Washington Street
East Peoria, IL 61611

1213 North Indiana LLC
PO Box 1029
Hammond, IN 46325

Holley L Bingham
1224 North Rensselaer Court
Griffith, IN 46319

Carmen Canales
1202-1204 North Wood Street
Griffith, IN 46319

Bennie J and Linda Hobbs
1224 Wood Court
Griffith, IN 46319

Ms. Veronica Horka
111 North. Broad Street
Griffith, IN 46319

Indiana Department of Natural Resources
Steve Davis
100 West Water Street
Michigan City, IN 46360-1310

Indiana Department of Natural Resources
Division of Law Enforcement
District 10 Headquarters
100 West Water Street
Michigan City, IN 46360

Brian Krystyniak
PO Box 4545
Chicago, IL 60680

Lake County Drainage Board
2293 North Main Street
Crown Point, IN 46307

Lake County SWCD
880 East 99th Court, Suite A
Crown Point, IN 46307

Little Calumet River Basin Development
Commission
Dan Repay
900 Ridge Road
Munster, IN 46321

Town of Griffith
1206 North Wood Avenue
Griffith, IN 46319

US Army Corps of Engineers
Chicago District
231 South LaSalle Street, Suite 1500
Chicago, IL 60604

Jeff Williams
1157 Indiana Avenue
Griffith, IN 46319

Staff Assignment:

Administrative
Technical
Environmental
Fish and Wildlife

: Scott H Dean
: Scott H Dean
: J. Matthew Buffington
: Brian Boszor

5-B-5
6-15-16



STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES
**CERTIFICATE OF APPROVAL
CONSTRUCTION IN A FLOODWAY**

APPLICATION # : FW-28366
STREAM : Indiana Harbor Canal
APPLICANT : BP Products North America Inc
Don Porter
2815 Indianapolis Boulevard
Whiting, IN 46394-2197
AGENT : BP Products North America Inc
Rose Herrera
2815 Indianapolis Boulevard
Whiting, IN 46394-2197

MAILED: June 03, 2016



AUTHORITY : IC 14-28-1 with 312 IAC 10 and IC 14-29-1 with 312 IAC 6

DESCRIPTION : Sediment and silt will be removed from an approximate 50' long by 17' wide firewater pumphouse intake channel to the Indiana Harbor Canal, through the use of vacuum trucks and divers in the channel. A depth of approximately 4' of material will be removed from the channel. Material will be collected onshore before being transported off-site as non-hazardous waste, and water will be placed into dewatering boxes. The existing bar screen and outer debris screen will be repaired and a silt fence at the inlet of the intake channel will be added. Additionally, an approximate 10' by 10' area of the bank of the canal adjacent to the intake structure will be stabilized with riprap and stone. The riprap will have a maximum height of 5'. Details of the project are contained in information received electronically at the Division of Water on April 8, 2016 and in plans and information received at the Division of Water on May 6, 2016 and June 1, 2016.

LOCATION : Along the left (north) bank, approximately 3250' upstream of the US 12 canal crossing near Hammond, North Township, Lake County
Section 19, T 37N, R 9W, Whiting Quadrangle
UTM Coordinates: Downstream 4610704 North, 458959 East

APPROVED BY :
Larissa Muellner, CFM, Sr Environmental Manager
Division of Water

APPROVED ON : June 3, 2016

Included: Notice Of Right To Administrative Review - General Conditions - Special Conditions - Service List

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW

APPLICATION #: FW- 28366

This signed document constitutes the issuance of a permit by the Department of Natural Resources, subject to the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

The permit or any of the conditions or limitations which it contains may be appealed by applying for administrative review. Such review is governed by the Administrative Orders and Procedures Act, IC 4-21.5, and the Department's rules pertaining to adjudicative proceedings, 312 IAC 3-1.

In order to obtain a review, a written petition must be filed with the Division of Hearings within 18 days of the mailing date of this notice. The petition should be addressed to:

Director
Division of Hearings
Indiana Government Center North, Room N501A
100 North Senate Avenue
Indianapolis, Indiana 46204

The petition must contain specific reasons for the appeal and indicate the portion or portions of the permit to which the appeal pertains.

If an appeal is filed, the final agency determination will be made by the Natural Resources Commission following a legal proceeding conducted before an Administrative Law Judge. The Department of Natural Resources will be represented by legal counsel.

**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES**

GENERAL CONDITIONS

APPLICATION #: FW- 28366

- (1) If any archaeological artifacts or human remains are uncovered during construction, federal law and regulations (16 USC 470, et seq.; 36 CFR 800.11, et al) and State Law (IC 14-21-1) require that work must stop and that the discovery must be reported to the Division of Historic Preservation and Archaeology within 2 business days.

Division of Historic Preservation and Archaeology
Room W274
402 West Washington Street
Indianapolis, IN 46204

Telephone: (317) 232-1646, FAX: (317) 232-8036

- (2) This permit must be posted and maintained at the project site until the project is completed.
- (3) This permit does not relieve the permittee of the responsibility for obtaining additional permits, approvals, easements, etc. as required by other federal, state, or local regulatory agencies. These agencies include, but are not limited to:

<u>Agency</u>	<u>Telephone Number</u>
Lake County Drainage Board	
Little Calumet River Basin Development Commission	(219) 595-0599
US Army Corps of Engineers	(312) 848-5539
Indiana Department of Environmental Management	(317) 233-8488 or (800) 451-6027
Local city or county planning or zoning commission	

- (4) This permit must not be construed as a waiver of any local ordinance or other state or federal law.
- (5) This permit does not relieve the permittee of any liability for the effects which the project may have upon the safety of the life or property of others.
- (6) This permit may be revoked by the Department of Natural Resources for violation of any condition, limitation or applicable statute or rule.
- (7) This permit shall not be assignable or transferable without the prior written approval of the Department of Natural Resources. To initiate a transfer contact:

Mr. Michael W. Neyer, PE, Director
Division of Water
Room W264
402 West Washington Street
Indianapolis, IN 46204

Telephone: (317) 232-4160, Toll Free: (877) 928-3755
FAX: (317) 233-4579

- (8) The Department of Natural Resources shall have the right to enter upon the site of the permitted activity for the purpose of inspecting the authorized work.
- (9) The receipt and acceptance of this permit by the applicant or authorized agent shall be considered as acceptance of the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SPECIAL CONDITIONS

APPLICATION #: FW- 28366

PERMIT VALIDITY : This permit is valid for 24 months from the "Approved On" date shown on the first page. If construction work in the floodway has not been completed by June 03, 2018 the permit will become void. This permit may be renewed one (1) time if a written request is received by DNR, Division of Water prior to June 03, 2018. Thereafter the permit will become void and a new permit will be required in order to continue work on the project.

This permit becomes effective 18 days after the "MAILED" date shown on the first page. If both a petition for review and a petition for a stay of effectiveness are filed before this permit becomes effective, any part of the permit that is within the scope of the petition for stay is stayed for an additional 15 days.

CONFORMANCE : Other than those measures necessary to satisfy the "General Conditions" and "Special Conditions", the project must conform to the information received by the Department of Natural Resources on: April 8, 2016, May 6, 2016 and June 1, 2016. Any deviation from the information must receive the prior written approval of the Department.

<u>Number</u>	<u>Special Condition</u>
(1)	revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion; low endophyte tall fescue may be used in the ditch bottom and side slopes only
(2)	use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids
(3)	do not use industrial slag or broken concrete as riprap
(4)	underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap
(5)	all excavated material must be properly spread or completely removed from the project site such that erosion and off-site sedimentation of the material is prevented
(6)	minimize the movement of resuspended bottom sediment from the immediate project area
(7)	if sediment is removed hydraulically and transported to an upland dewatering basin, adequate slurry detention time and sediment removal measures must be used to ensure that the water returned to the canal is not carrying excessive sediment back to the canal
(8)	appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized
(9)	do not excavate or place fill in any riparian wetland
(10)	except for the material used as backfill as shown on the above referenced project plans on file at the Division of Water, place all excavated material landward of the floodway *
(11)	do not leave felled trees, brush, or other debris in the floodway *

**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES**

SPECIAL CONDITIONS

APPLICATION #: FW- 28366

- (12) all riprap placed for bank stabilization must conform to the bank
- (13) upon completion of the project, remove all construction debris from the floodway *
- (14) any equipment and/or cables placed on a public waterway must be clearly marked with navigation buoys described in 312 IAC 5-4 in a manner that would be visible to any watercraft operator in the area
- (15) any equipment and/or cables left in a public waterway in times of limited visibility must, in addition to the requirement listed above, be marked with flashing amber warning lights and reflective signage warning watercraft operators of the hazards
- (16) * Note: for regulatory purposes, the floodway is defined as that shown on Panel 38 of the Lake County Flood Insurance Study dated January 18, 2012

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 28366

BP Products North America Inc
Don Porter
2815 Indianapolis Boulevard
Whiting, IN 46394-2197

BP Products North America Inc
Rose Herrera
2815 Indianapolis Boulevard
Whiting, IN 46394-2197

ECWMD
Fernando Trevino
4444 Railroad Avenue
East Chicago, IN 46312

Exxon Mobil Oil Bulk Plant
1527 141st Street
Hammond, IN 46327

Indiana Department of Natural Resources
Steve Davis
100 West Water Street
Michigan City, IN 46360-1310

Indiana Department of Natural Resources
Division of Law Enforcement
District 10 Headquarters
100 West Water Street
Michigan City, IN 46360

Lake County Drainage Board
2293 North Main Street
Crown Point, IN 46307

Lake County SWCD
880 East 99th Court, Suite A
Crown Point, IN 46307

Little Calumet River Basin Development
Commission
Dan Repay
900 Ridge Road
Munster, IN 46321

Mr. Don Novak
5925 Calumet Avenue, Ground Floor
Hammond, IN 46320

US Army Corps of Engineers
Chicago District
231 South LaSalle Street, Suite 1500
Chicago, IL 60604

West Shore Pipe Line Company
12920 Bell Road
Lemont, IL 60439-7788

Staff Assignment:

Administrative
Technical
Environmental
Fish and Wildlife
Law Enforcement
Historic Preservation & Archaeology

: Scott H Dean
: Scott H Dean
: J. Matthew Buffington
: Nathan D. Thomas
: Tom Torsell
: Cathy Draeger-Williams

5-B-6
6-15-16



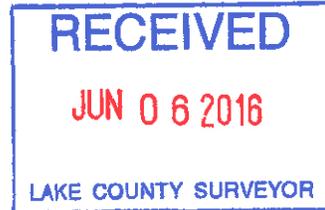
STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES
CERTIFICATE OF APPROVAL
CONSTRUCTION IN A FLOODWAY

APPLICATION # : FW-28296

MAILED: June 03, 2016

STREAM : Grand Calumet River

APPLICANT : Lake County Highway Department
Duane A Alverson, PE
1100 East Monitor Street
Crown Point, IN 46307-3521



AGENT : Hanson Professional Services Inc
Robert J Zolcak
7820 Innovation Boulevard, Suite 200
Indianapolis, IN 46278

AUTHORITY : IC 14-28-1 with 312 IAC 10 and IC 14-29-1 with 312 IAC 6

DESCRIPTION : The existing Kennedy Avenue Bridge will be rehabilitated by installing fiber reinforced polymer wrap at the interior bents, replacing guardrail and deck drains, adding riprap over geotextile fabric to drainage ditches, and placing a bridge deck overlay. Approximately 638 tons of Class I riprap will be placed along Bent 2 to fill a scour hole as well. The existing bridge deck and substructure will remain in place. Details of the project are contained in information received electronically at the Division of Water on February 16, 2016 and in plans and information received at the Division of Water on March 10, 2016 and March 21, 2016.

LOCATION : At the Kennedy Avenue river crossing, approximately 9700' downstream of the US 12 river crossing near East Chicago, North Township, Lake County Section 33, T 37N, R 9W, Highland Quadrangle
UTM Coordinates: Downstream 4607022 North, 461549 East

APPROVED BY :
James J. Hebenstreit, PE, Assistant Director
Division of Water

APPROVED ON : June 3, 2016

Included: Notice Of Right To Administrative Review - General Conditions - Special Conditions - Service List

**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES**

NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW

APPLICATION #: FW- 28296

This signed document constitutes the issuance of a permit by the Department of Natural Resources, subject to the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

The permit or any of the conditions or limitations which it contains may be appealed by applying for administrative review. Such review is governed by the Administrative Orders and Procedures Act, IC 4-21.5, and the Department's rules pertaining to adjudicative proceedings, 312 IAC 3-1.

In order to obtain a review, a written petition must be filed with the Division of Hearings within 18 days of the mailing date of this notice. The petition should be addressed to:

Director
Division of Hearings
Indiana Government Center North, Room N501A
100 North Senate Avenue
Indianapolis, Indiana 46204

The petition must contain specific reasons for the appeal and indicate the portion or portions of the permit to which the appeal pertains.

If an appeal is filed, the final agency determination will be made by the Natural Resources Commission following a legal proceeding conducted before an Administrative Law Judge. The Department of Natural Resources will be represented by legal counsel.

**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES**

GENERAL CONDITIONS

APPLICATION #: FW- 28296

- (1) If any archaeological artifacts or human remains are uncovered during construction, federal law and regulations (16 USC 470, et seq.; 36 CFR 800.11, et al) and State Law (IC 14-21-1) require that work must stop and that the discovery must be reported to the Division of Historic Preservation and Archaeology within 2 business days.

Division of Historic Preservation and Archaeology
Room W274
402 West Washington Street
Indianapolis, IN 46204

Telephone: (317) 232-1646, FAX: (317) 232-8036

- (2) This permit must be posted and maintained at the project site until the project is completed.
- (3) This permit does not relieve the permittee of the responsibility for obtaining additional permits, approvals, easements, etc. as required by other federal, state, or local regulatory agencies. These agencies include, but are not limited to:

<u>Agency</u>	<u>Telephone Number</u>
Lake County Drainage Board	
Little Calumet River Basin Development Commission	(219) 595-0599
US Army Corps of Engineers	(312) 846-5539
Indiana Department of Environmental Management	(317) 233-8488 or (800) 451-6027
Local city or county planning or zoning commission	

- (4) This permit must not be construed as a waiver of any local ordinance or other state or federal law.
- (5) This permit does not relieve the permittee of any liability for the effects which the project may have upon the safety of the life or property of others.
- (6) This permit may be revoked by the Department of Natural Resources for violation of any condition, limitation or applicable statute or rule.
- (7) This permit shall not be assignable or transferable without the prior written approval of the Department of Natural Resources. To initiate a transfer contact:

Mr. Michael W. Neyer, PE, Director
Division of Water
Room W264
402 West Washington Street
Indianapolis, IN 46204

Telephone: (317) 232-4160, Toll Free: (877) 928-3755
FAX: (317) 233-4579

- (8) The Department of Natural Resources shall have the right to enter upon the site of the permitted activity for the purpose of inspecting the authorized work.
- (9) The receipt and acceptance of this permit by the applicant or authorized agent shall be considered as acceptance of the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SPECIAL CONDITIONS

APPLICATION #: FW- 28296

PERMIT VALIDITY : This permit is valid for 24 months from the "Approved On" date shown on the first page. If construction work in the floodway has not been completed by June 03, 2018 the permit will become void. This permit may be renewed one (1) time if a written request is received by DNR, Division of Water prior to June 03, 2018. Thereafter the permit will become void and a new permit will be required in order to continue work on the project.

This permit becomes effective 18 days after the "MAILED" date shown on the first page. If both a petition for review and a petition for a stay of effectiveness are filed before this permit becomes effective, any part of the permit that is within the scope of the petition for stay is stayed for an additional 15 days.

CONFORMANCE : Other than those measures necessary to satisfy the "General Conditions" and "Special Conditions", the project must conform to the information received by the Department of Natural Resources on: February 16, 2016, March 10, 2016 and March 21, 2016. Any deviation from the information must receive the prior written approval of the Department.

<u>Number</u>	<u>Special Condition</u>
(1)	revegetate all bare and disturbed areas within the project limits using a mixture of grasses, sedges, and wildflowers native to Northwestern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion
(2)	do not conduct any dredging or sediment removal around the piles between January 1 and June 30 in order to protect aquatic species; requests for a waiver of this date restriction may be submitted to the Division of Fish and Wildlife for review and consideration
(3)	do not excavate in the low flow area except for the placement of riprap or working on the existing piers
(4)	operate equipment used to rehabilitate the bridge from the existing roadway or from an appropriate craft in the waterway
(5)	use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids
(6)	do not use broken concrete as riprap
(7)	underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap
(8)	minimize the movement of resuspended bottom sediment from the immediate project area
(9)	do not deposit or allow demolition/construction materials or debris to fall or otherwise enter the waterway
(10)	appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SPECIAL CONDITIONS

APPLICATION #: FW- 28296

- (11) seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas
- (12) do not place riprap or other streambed stabilization materials in the active stream channel above the existing streambed elevation in order to prevent obstructions to the movement of aquatic organisms upstream and downstream of the crossing structure; fill the scour hole to match existing nearby bed elevations
- (13) spoils from the dredging and sediment removal around the piles must be deposited on an upland dewatering site and prevented from eroding and reentering the waterway and properly hauled off site and disposed of following dewatering
- (14) water returned to the waterway from the dredging and sediment removal process and from the dewatering site must be filtered to prevent reentry of contaminated silt and sediment
- (15) remove and properly dispose of any debris, plants, or plant fragments from the waterway that were dislodged during the project
- (16) all plant material, mud, and debris must be removed and all water drained from any equipment before entering or leaving the waterway to prevent the spread of aquatic and terrestrial invasive species
- (17) except for material used as backfill, place any excavated material landward of the floodway *
- (18) do not leave felled trees, brush, or other debris in the floodway *
- (19) riprap placed for bank stabilization must conform to streambank
- (20) upon completion of the project, remove all construction debris from the floodway *
- (21) issuance of this Certificate does not constitute approval of any temporary causeways, coffer dams, runarounds, access bridges or borrow areas associated with the proposed bridge construction; separate written approval must be obtained from the Department for these types of projects prior to beginning any work within the floodway *
- (22) keep the bridge waterway opening free of debris and sediment at all times
- (23) construction activities should be confined as much as possible, minimizing water quality impacts due to siltation effects, in order to have the smallest possible impact on the nature preserve, state ranked plants, and insect communities located to the east of the project area
- (24) any equipment and/or cables placed on a public waterway must be clearly marked with navigation buoys described in 312 IAC 5-4 in a manner that would be visible to any watercraft operator in the area
- (25) any equipment and/or cables left in a public waterway in times of limited visibility must, in addition to the requirement listed above, be marked with flashing amber warning lights and reflective signage warning watercraft operators of the hazards

**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES**

SPECIAL CONDITIONS

APPLICATION #: FW- 28296

- (26) * NOTE: for regulatory purposes, the floodway is defined as that shown on Panel 127 of the Lake County Flood Insurance Rate Maps dated January 18, 2012

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 28296

Lake County Highway Department
Duane A Alverson, PE
1100 East Monitor Street
Crown Point, IN 46307-3521

Hanson Professional Services Inc
Robert J Zolcak
7820 Innovation Boulevard, Suite 200
Indianapolis, IN 46278

Buckeye Terminals LLC
PO Box 368
Emmaus, PA 18049-0368

City of East Chicago
Jezeel Rodriguez
4444 Railroad Avenue
East Chicago, IN 46312

E I Du Pont De Nemours and Company
PO Box 1039
Wilmington, DE 19899-1421

Indiana Department of Natural Resources
Steve Davis
100 West Water Street
Michigan City, IN 46360-1310

Indiana Department of Natural Resources
Division of Law Enforcement
District 10 Headquarters
100 West Water Street
Michigan City, IN 46360

Indiana Department of Natural Resources
402 West Washington Street, Room W261
Indianapolis, IN 46204

Lake County Drainage Board
2293 North Main Street
Crown Point, IN 46307

Lake County SWCD
880 East 99th Court, Suite A
Crown Point, IN 46307

Little Calumet River Basin Development
Commission
Dan Repay
900 Ridge Road
Munster, IN 46321

Norfolk and Southern Corporation
3 Commercial Place
PO Box 209
Norfolk, VA 23510

Mr. Don Novak
5925 Calumet Avenue, Ground Floor
Hammond, IN 46320

Resco Products Incorporated
2 Penn Center West Boulevard, Suite 430
Pittsburgh, PA 15276-0102

US Army Corps of Engineers
Chicago District
231 South LaSalle Street, Suite 1500
Chicago, IL 60604

Lead Refining Inc
80 Caterpillar Road
Redding, CA 96003

W R Grace and Company
7500 Grace Drive
Columbia, MO 21044

Staff Assignment:

Administrative
Technical
Environmental
Fish and Wildlife
Law Enforcement
Historic Preservation & Archaeology

: Alysson C. Oliger
: Alysson C. Oliger
: J. Matthew Buffington
: Brian Boszor
: Tom Torsell
: Rachel Sharkey



5-B-7
6-15-16

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

June 9, 2016

Bill Emerson, Jr.
Lake County Surveyor
2293 North Main Street
Crown Point, IN 46307

Gerry Scheub, Chairman
Lake County Drainage Board
2293 North Main Street
Crown Point, IN 46307

RE: Regulated Drain Determination
15003 82nd Avenue
Dyer, St John Township

Dear Gentlemen,

According to records in the Office of the Lake County Surveyor, the property located at 15003 82nd Avenue in un-incorporated Dyer, St John Township contains no regulated drains and is not under the jurisdiction of the Lake County Surveyor/Lake County Drainage Board. Therefore, neither of these two county agencies has statutory authority over this property to perform any type of maintenance.

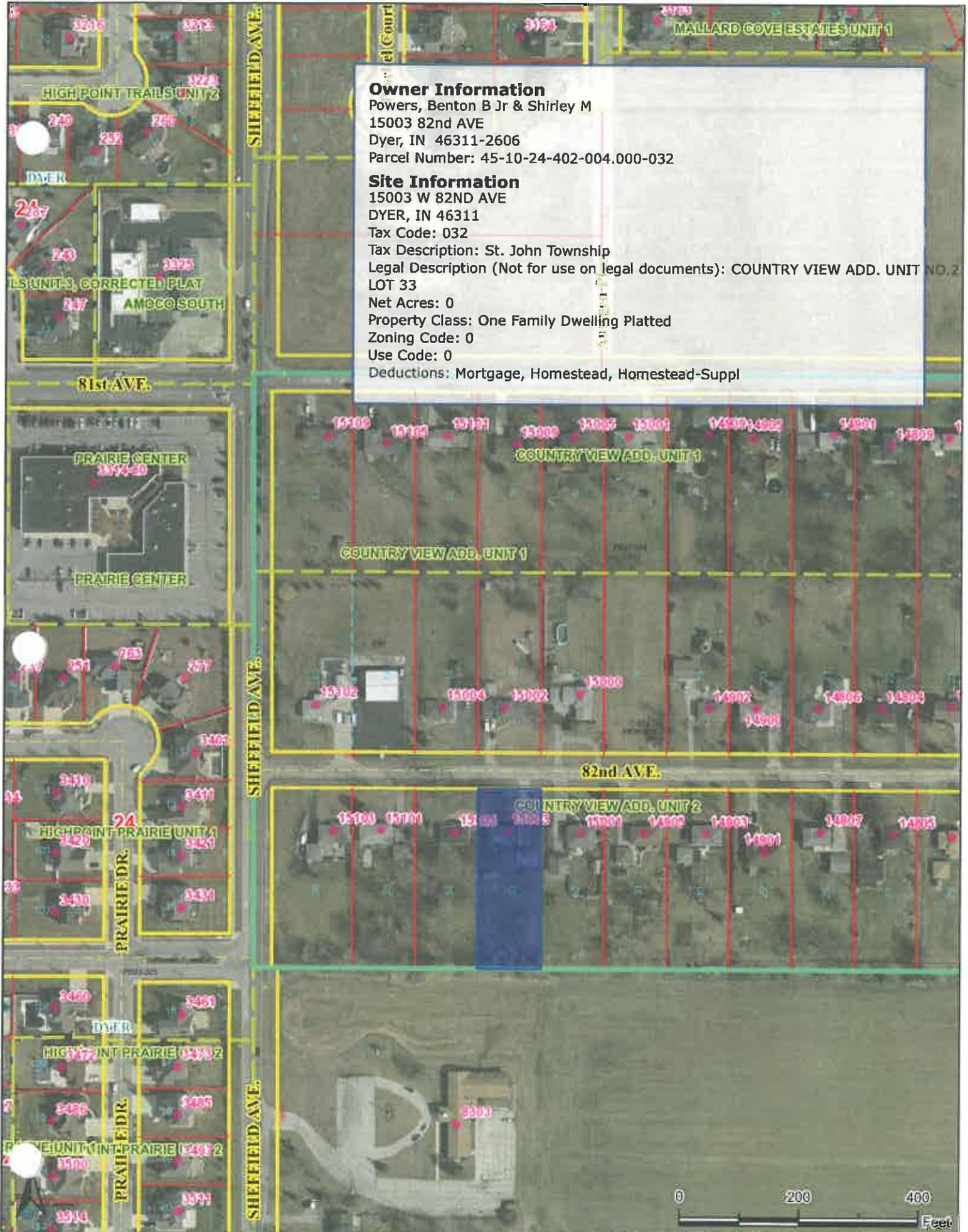
It is unfortunate that we are unable to provide assistance. However, since this subdivision and lot, Country View Addition-Unit 2 – Lot 33, are located outside the Dyer municipal boundary, I believe that the Lake County Public Works Department would be better suited to handle this concern. If this issue progresses into a water quality concern, then I would ask that the County MS4 department join resources with the County Public Works department in searching for cooperative resolutions.

The Lake County Surveyor's Office appreciates the opportunity to assist in this matter. Should you have any questions or comments, please do not hesitate to contact our office.

Sincerely,

Daniel V. Gossman
Drainage Administrator

Cc: Tom Regalado, Asst Drainage Admn
Cliff Duggan, Legal Advisor
Jean Shepherd, St John Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee



Owner Information
 Powers, Benton B Jr & Shirley M
 15003 82nd AVE
 Dyer, IN 46311-2606
 Parcel Number: 45-10-24-402-004.000-032

Site Information
 15003 W 82ND AVE
 DYER, IN 46311
 Tax Code: 032
 Tax Description: St. John Township
 Legal Description (Not for use on legal documents): COUNTRY VIEW ADD. UNIT NO. 2 LOT 33
 Net Acres: 0
 Property Class: One Family Dwelling Platted
 Zoning Code: 0
 Use Code: 0
 Deductions: Mortgage, Homestead, Homestead-Suppl

5-B-8
6-15-16



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

June 10, 2016

Bill Emerson, Jr
Lake County Surveyor
2293 North Main Street
Crown Point, Indiana 46307

RE: Monthly Report on Clearing and Snagging Crew
Little Calumet River Watershed

Dear Mr. Emerson,

Following are the sites addressed by the crew since mid-May

May 16th – June 8th

Turkey Creek Lat. # 6	Removed Beaver Dam
Turkey Creek Lat. # 6	Removed Beaver Dam
Turkey Creek	Removed Beaver Dam
Hart Ditch	Removed Debris
Main Beaver Dam	Removed Beaver Dam

In addition, crew maintained/cleared easements along Cady Marsh Ditch, removed beaver dams and fallen trees at Graper Ditch, also maintained/ inspected various culvert crossings countywide.

Respectfully,

Thomas Regalado
Assistant Drainage Administrator

Cc: Daniel V. Gossman, Drainage Administrator
Lake County Drainage Board and Advisory Committee

Turkey Creek Lat. # 6 East of I-65

Ross Twp.



Before

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Turkey Creek Lat. # 6 East of I-65

Ross Twp.



After

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Turkey Creek Lat. # 6 West of I-65

Ross Twp.



Before

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Turkey Creek Lat. # 6 West of I-65

Ross Twp.



After

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Turkey Creek Gatlin Ponds

St. John Twp.



Before

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Turkey Creek Gatlin Ponds

St. John Twp.



After

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Hart Ditch Dyer Town Hall

St. John Twp.



Before

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Hart Ditch Dyer Town Hall

St. John Twp.



After

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Main Beaver Dam Blaine St.

St. John Twp.



Before

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor

Main Beaver Dam Blaine St.

St. John Twp.



After

Prepared by the Lake County Surveyor's Office
Bill Emerson, Jr Lake County Surveyor



5-B-9
6-15-16

Christopher B. Burke Engineering, LLC

One Professional Center Suite 314 Crown Point, IN 46307 219.663.3410 cbbel-in.com

June 8, 2016

Lake County Surveyor's Office
Lake County Government Center
2293 North Main Street
Crown Point, Indiana 46307

Attention: Bill Emerson Jr., Lake County Surveyor

Subject: Enbridge Transfer Line 2 Repair – As-Built Documentation
Lake County Drain Permit 278-6-15-I
Watercourse: Spring Street Ditch

Dear Mr. Emerson:

Regarding Lake County Drain Permit 278-6-15-I for Enbridge to perform work within a regulated drain, Enbridge has previously requested approval to install two data loggers to monitor their underground transfer lines. The Lake County Surveyor/Lake County Drainage Board approved the Enbridge request, as documented by the April 6, 2016 letter from Lake County Drainage Administrator Dan Gossman to Enbridge, and Enbridge has recently completed the installation of the data loggers.

On June 2, 2016, Enbridge contacted Christopher B. Burke Engineering, LLC (CBBEL) to request an on-site inspection of the as-built conditions. CBBEL staff met Enbridge representative Matt Tanis at Buckeye Terminals, 115 W. Division Street, Schererville, on June 7, 2016 to review the completed work. CBBEL's observations confirm that the data loggers were installed in the locations as proposed by Enbridge and as approved by the Lake County Surveyor/Lake County Drainage Board. The attached Exhibit 1 provides an aerial photo of the locations of the data loggers along with as-built photos taken during the site visit on June 7th.

Sincerely,

Alan L. Walus, Senior Project Manager

Attached: Exhibit 1 – Aerial Photo of Project Area with As-Built Photos

cc: Daniel V. Gossman, Lake County Surveyor's Office
Thomas T. Burke, Jr., CBBEL

**Exhibit 1 – Aerial View of Project Area
with As-Built Photos of Data Loggers**



**Photo 1: As-Built Photo of North
Data Logger (Looking Southeast)**



**Photo 2: As-Built Photo of South
Data Logger (Looking North)**

Mary Ellen Kupsik

From: Keely D. Pearson <KPearson@barr.com>
ent: Friday, June 10, 2016 3:43 PM
To: 'Thomas Burke'; Mary Ellen Kupsik; Emerson, Bill J; Regalado, Tom R
Cc: 'Alina Heydt (Alina.Heydt@enbridge.com)'
Subject: Lake County Drainage Permit 278-6-15-I, CBBEL Project No. 93-169 - close out request
Attachments: Enbridge Transfer Line Repair -- As-Built info for Permit 278-6-15-I.PDF

Good afternoon,

On behalf of Enbridge, I'm requesting close-out of Lake County Drainage Permit 278-6-15-I, CBBEL Project No. 93-169. Al Walus was on-site with an environmental inspector on Tuesday to verify the work was completed as planned (see attached memo). Please let me know what additional information you need to close out the permit. Thanks in advance!

Thanks,
Keely

Keely D. Pearson

Senior Environmental Consultant
Duluth, MN office: 218.529.8231
cell: 218.260.7842
kpearson@barr.com
www.barr.com



5-B-10
6-15-16



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

June 13, 2016

Bill Emerson, Jr.
Lake County Surveyor
2293 N. Main Street
Crown Point, Indiana 46307

RE: Invoice from Tom Larson

Dear Bill,

I am receipt of an invoice from Wildlife Relocation Specialist Tom Larson dated April 7, 2016 thru May 26, 2016. The invoice is for a total of four beavers.

I authorized Mr. Larson to proceed on the site after learning of beaver activity in the area. The job was completed satisfactorily, and I recommend payment in full to Mr. Larson.

If you need any further information, just let me know.

Thank You

A handwritten signature in black ink, appearing to read "Tom Regalado".

Tom Regalado
Assistant Drainage Administrator

Cc: Dan Gossman, Drainage Administrator
Lake County Drainage Board and Advisory Committee

LAKE COUNTY DRAINAGE BOARD

Kyle W. Albens D.H.

[Signature]

APPROVED THIS 15 DAY OF June 2016

ANIMAL DAMAGE CONTROL



Tom Larson
P. O. Box 256
Shelby, IN 46377
(219) 552-0131

William Emerson
Lake County Surveyor
2293 North Main Street
Crown Point, IN 46307

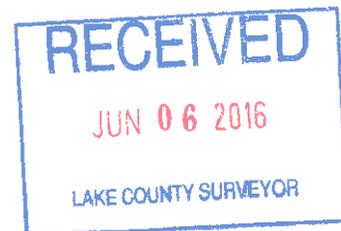
BILL FOR SERVICES
April 7-May 26, 2016

Animal	Quantity	Fee	Total Amount	Reference
Beaver	4	\$200.00ea	\$800.00	Lateral no.6

Total Beaver 4 @ \$200.00ea \$800.00

Please make check payable to: Tom Larson, A.D.C.

A handwritten signature in black ink, appearing to be 'T. Larson'.





U.S. Department of the Interior

Secretary Jewell, National Park Service Director Jarvis Announce New National Recreation, Water Trails

OFFICE OF THE SECRETARY

New Trails Help Promote Obama Administration's Effort to Increase Outdoor Recreational Opportunities, Connection to Nature

Date: June 3, 2016

Contact: Jessica Kershaw (DOI) Interior_Press@ios.doi.gov

Jeff Olson (NPS) 202-208-4988

WASHINGTON – U.S. Secretary of the Interior Sally Jewell and National Park Service Director Jonathan B. Jarvis today announced the designation of six local and state National Recreation Trails, adding more than 350 miles to the National Trails System, and three National Water Trails, adding more than 600 miles to the National Water Trails System.

“By designating these new National Trails, we recognize the efforts of local communities to provide outdoor recreational opportunities that can be enjoyed by everyone,” said Jewell. “Our world-class network of national trails provides easily accessible places to enjoy exercise and connect with nature in both urban and rural areas while also boosting tourism and supporting economic opportunities in local communities across the country.”

On Saturday, June 4, hundreds of organized activities are planned as part of National Trails Day, including hikes, educational programs, bike rides, trail rehabilitation projects, festivals, paddle trips, and trail dedications. A list of activities is available on the American Hiking Society's website.

“The network of national recreation and water trails offers expansive opportunities for Americans to explore the great outdoors,” said Jarvis. “With summer here, I hope everyone will take advantage of a trail nearby to hike, paddle or bike. It’s a great family outing and an opportunity to fill your lungs with fresh air and enjoy the beauty of the world around us.”

National Recreation Trail designation recognizes existing trails and trail systems that link communities to recreational opportunities on public lands and in local parks across the Nation. Each of the newly designated trails will receive a certificate of designation, a set of trail markers and a letter of congratulations from Secretary Jewell.

While national scenic trails and national historic trails may only be designated by an act of Congress, national recreation trails (including national water trails) may be designated by the Secretary of the Interior or the Secretary of Agriculture in response to an application from the trail's managing agency or organization.

The National Recreation Trails program is jointly administered by the National Park Service and the U.S. Forest Service, in conjunction with a number of Federal and not-for-profit partners, notably American Trails, which hosts the National Recreation Trails website.

Secretary Jewell designated the following six trails this year as National Recreation Trails:

CALIFORNIA - Backbone Trail

The 67-mile Backbone Trail connects the largest publicly owned natural and scenic parks within Santa Monica Mountains National Recreation Area. The trail was created through the decades-long efforts of many partners including California State Parks, the Santa Monica Mountains Conservancy, the Mountains Recreation and Conservation Authority, and the National Park Service. Approximately 17 million Southern Californians live within an hour's drive of one of the trailheads.

CONNECTICUT - Shetucket River Water Trail

The Shetucket River flows through The Last Green Valley National Heritage Corridor in Windham and New London Counties. The water trail offers 20 miles of paddling within an hour's drive of three of New England's largest urban and metropolitan regions. The major tributaries of the Shetucket River, the Quinebaug River to the east and Willimantic River to the west, have previously been designated National Recreation Trails.

FLORIDA - Bartram Trail in Putnam County

John Bartram and his son, William, were naturalists and authors who explored the St. Johns River in the 1700s. Their legacy inspired the creation of a combined 250 miles of hiking, cycling, and paddling trails with related driving tours. A wealth of online resources facilitates planning for adventures within this slice of rural Florida.

MAINE - Johnson Brook Trail

This 3.5-mile trail is located at the Sunhaze Meadows National Wildlife Refuge, part of the Northern Maine National Wildlife Refuge Complex in Penobscot County. The loop traverses through a mixed hardwood/softwood forest. Numerous boardwalk sections allow visitors to experience the forested wetlands that surround Sunhaze Bog.

OKLAHOMA - Turkey Mountain Urban Wilderness Area Trails

The Turkey Mountain Urban Wilderness Area is located seven-miles from downtown Tulsa. The Red, Blue, and Yellow Trails provide 6.7 miles of marked trails for beginner to advanced hikers, trail runners, mountain bikers, and equestrian riders. The trail system winds along cliffs overlooking the Arkansas River and past ponds and rock gardens into the heart of the heavily wooded wilderness.

WASHINGTON - Roche Harbor Trails

The 9.1 miles of trails at Roche Harbor Resort on San Juan Island link a variety of natural features and cultural resources including open pastures, Northwest forests, water views, wildlife habitats, pond-filled quarries, restored nineteenth-century lime kilns, and the historic hotel. The trail system connects with the trail to English Camp at San Juan Island National Historic Park.

Secretary Jewell designated the following three trails this year as National Water Trails:

ILLINOIS and INDIANA - Kankakee River Water Trail

The 133-mile Kankakee River Water Trail traverses northwestern Indiana and northeastern Illinois in what was once one of the United States' largest wetlands. The water trail boasts ample public access sites, thousands of acres of natural areas and preserves, remarkable wildlife, overnight camping for paddlers, many historic sites, and a high-quality sports fishery.

KANSAS - Arkansas River Water Trail

The Arkansas River Water Trail provides 192 miles of scenic water trail and riverside wildlife habitat from Great Bend, Kansas to the Kansas-Oklahoma border. The trail provides recreational paddling, fishing and wildlife viewing opportunities via 22 existing access sites as it meanders through the expansive prairie and rich farmland, passing many cities and small towns along its way.

OHIO - Great Miami River Watershed Water Trail

The Great Miami River Watershed Water Trail is located in southwest Ohio and includes 291 miles of paddling, fishing, and wildlife watching opportunities on three beautiful rivers and many smaller tributaries. The major rivers include the Great Miami, Stillwater, and Mad Rivers, all of which are Ohio-designated State water trails. The trail offers a range of opportunities for human-powered and motorized boating.



S-D-3
4-15-16

June 13, 2016

Lake County Surveyor's Office
Lake County Government Center
2293 North Main Street
Crown Point, Indiana 46307

Attention: Bill Emerson Jr., Lake County Surveyor

Subject: Cady Marsh Ditch – 2015 (Highland)
Review of Invoice #7

Dear Mr. Emerson:

As requested, Christopher B. Burke Engineering, LLC staff (CBBEL) reviewed Invoice #153096 dated June 8, 2016, from KDM Services, LLC (KDM) for the Cady Marsh Ditch Project (Highland). CBBEL inspected the work completed by KDM on June 7, 2016. Our observations correspond with the Pay Items and Project Stationing identified in KDM's Invoice. CBBEL offers the following information on areas identified where improvements have occurred and have been field verified:

Item 1: Log Jam Removal (Clearing & Snagging)

Work completed for this Invoice:

Sta. 27+00 to 29+50 =	250 LF	
Sta. 39+00 to 40+00 =	100 LF	
Sta. 43+25 to 45+00 =	175 LF	
Sta. 54+00 to 56+25 =	225 LF	
Sta. 57+00 to 59+00 =	200 LF	
	<u>950 LF</u>	Total this Invoice

Unit Cost @ \$10.75/LF x 950 LF = **\$10,212.50**

(Note: For Pay Item 1, Log Jam Removal, KDM is 100% complete through Invoice #7.)

Item 2: Channel Bottom Dipping

Work completed for this Invoice:

Sta. 30+25 to 42+50 =	454 CY	
Sta. 123+80 to 131+00 =	1,066.667 CY	
	<u>1,520.667 CY</u>	Total this Invoice

Unit Cost @ \$11.25/LF x 1,520.667 = **\$17,107.50**

(Note: For Pay Item 2, Channel Bottom Dipping, KDM is 100% complete through Invoice #7.)

Item 3: Temporary Wetland Crossing (Drag Line Mat)

Work completed for this Invoice:

Sta. 44+00 to 48+00 =	400 LF	
	<u>400 LF</u>	Total this Invoice

Unit Cost @ \$43.90/LF x 400 LF = **\$17,560.00**

(Note: For Pay Item 3, Temporary Wetland Mat, KDM is 100% complete through Invoice #7.)

Item 4: Channel Bank Excavation (Slope Repair)

Work completed for this Invoice:

Sta. 44+00 to 45+00 =	100 LF	
	100 LF	Total this Invoice

Unit Cost @ \$31.00/LF x 100 LF =	\$3,100.00
-----------------------------------	-------------------

(Note: For Pay Item 4, Channel Bank Excavation, KDM is 100% complete through Invoice #7.)

Item 5: Riprap Bank Protection

No work associated with this Invoice.

(Note: For Pay Item 5, Riprap Bank Protection, KDM was 100% complete through Invoice #6.)

Item 6A: Erosion Control Blanket (Special) – Spoil Piles

Work completed for this Invoice:

Sta. 30+25 to 42+50 =	1,770 SY	
Sta. 57 to 60 (used at Sta. 40 to 42+50) =	433 SY	
Sta. 60 to 65+50 (used at Sta. 40 to 42+50;	794 SY	
65+50 to 74; and 100+50 to 117) =		
Sta. 110+50 to 112 (used at 112 to 123+30) =	217 SY	
Sta. 123+80 to 130+50 =	968 SY	
	4,182 SY	Total this Invoice

Unit Cost @ \$5.00/SY x 4,182 SY =	\$20,910.00
------------------------------------	--------------------

(Note: For Pay Item 6A, ECB – Spoil Piles, KDM is 100% complete through Invoice #7.)

Item 6B: Erosion Control Blanket (Special) – Bank Slope Repair

Work completed for this Invoice:

Sta. 44+00 to 45+00 =	222 SY	
	222 SY	Total this Invoice

Unit Cost @ \$5.25/SY x 222 SY =	\$1,165.50
----------------------------------	-------------------

(Note: For Pay Item 6B, ECB-Bank Slope Repair, KDM is 100% complete through this Invoice #7.)

Item 7: Mulched Seeding

Work completed for this Invoice:

Sta. 30+25 to 42+50 =	0.37 AC	
Sta. 65+50 to 74+00 =	0.25 AC	
Sta. 100+50 to 110+00 =	0.29 AC	
Sta. 112+00 to 117+00 =	0.15 AC	
Sta. 121+00 to 123+30 =	0.10 AC	
Sta. 123+80 to 130+50 =	0.20 AC	
Sta. 0+25 to 0+75 =	0.10 AC	
Sta. 38+20 to 39+50 =	0.06 AC	
Sta. 44+00 to 45+00 =	0.10 AC	
	1.62AC	Total this Invoice

Unit Cost @ \$1,125/AC x 1.62 AC =	\$1,822.50
------------------------------------	-------------------

(Note: For Pay Item 7, Mulched Seeding, KDM is 100% complete through this Invoice #7.)

Item 8: Silt Fence

No work associated with this Invoice.

(Note: For Pay Item 8, Silt Fence, KDM is 100% complete through Invoice #7.)

Item 6A: Erosion Control Blanket (Special) – Spoil Piles, As-Built Quantity Adjustments

Work completed for this Invoice:

- Due to relocating the drag line matting away from Sta. 117+00 to Sta. 121+00, additional ECB was placed in this area.
- Sediment from Sta. 130+00 to Sta. 137+00 was placed in the vicinity of Sta. 128+00 to Sta. 130+50 and resulted in additional ECB in this area.
- Wider ECB widths were utilized along three reaches due to the characteristics of the sediment which spread out over a wider area when placed on the bank during channel bottom dipping operations.

Summary of as-built quantities for Item 6A:

Sta. 117+00 to 121+00 =	578 SY	
Sta. 100+50 to 110+00 =	548 SY	
Sta. 112+00 to 123+30 =	605 SY	
Sta. 123+80 to 130+50 =	371 SY	
	<u>2,102 SY</u>	Total this Invoice
Unit Cost @ \$5.00/SY x 2,102 SY =	\$10,510	

Note: The cost for the as-built quantities of erosion control blanket are off-set in part due to the reduced scope of work at Sta. 57+00 to 60+00 and 110+50 to 112+00. The cost for as-built quantities for Erosion Control Blanket are 100% complete with this Invoice #7.

Summary of Pay Items for this Invoice:

Log Jam Removal:	\$10,212.50
Channel Bottom Dipping:	\$17,107.50
Temporary Wetland Crossing:	\$17,560.00
Channel Bank Excavation (Slope Repair):	\$3,100.00
Erosion Control Blanket (Spoil Piles):	\$20,910.00
Erosion Control Blanket (Slope Repair):	\$1,165.50
Mulched Seeding:	\$1,822.50
Erosion Control Blanket As-Built Quantities:	<u>\$10,510.00</u>
Value of Work Completed This Invoice:	\$82,388.00

Comparison of value of work completed to value of original contract and approved changes:

The original contract award was for \$397,826.25. Due to approved work changes from Sta. 37+50 to Sta. 39+50 (see CBBEL memo of November 5, 2015), the value of the contract increased by \$6,326.02 for an adjusted contract value of \$404,152.27. Through prior Invoice #6 of KDM, the value of work completed by KDM through May 12, 2016, was \$320,331.86. Adding the work completed this invoice of \$82,388.00 results in a total value of work completed and invoiced of \$402,719.86 which is within and below the value of the project of \$404,152.27. This invoice #7 represents the full invoicing for all work items completed by KDM for the Cady Marsh Ditch Project (Highland).

CBBEL's recommendation for payment:

Total Improvements:	This Invoice	To Date
Value of Work Completed:	\$ 82,388.00	\$ 402,719.86
Less Retainage (15%):	\$ (12,358.20)	\$ (60,407.98)
Balance:	\$ 70,029.80	\$ 342,311.88
Less Previous Payments:	n/a	\$ (272,282.08)
Subtotal:	\$ 70,029.80	\$ 43,293.05
Amount Due This Payment:	\$ 70,029.80	\$ 70,029.80

As of the site inspection conducted on June 7, 2016, KDM has completed all work. With the retainage of \$12,358.20 withheld from this payment, Lake County will be holding a total of \$60,407.98 in retainage funds for the project. As recently placed seeding takes hold and grows, retainage payments would most likely be in order to be released in the coming weeks/months.

If you have any questions, please do not hesitate to call.

Sincerely,



Alan J. Walus, Senior Project Manager

Attached: KDM Services, LLC Invoice #153096 dated June 8, 2016

cc: Daniel V. Gossman, Lake County Surveyor's Office
Thomas T. Burke, Jr., CBBEL

L9301690001 Cady Marsh Invoice 7 Review 061316

LAKE COUNTY DRAINAGE BOARD D.H.



APPROVED THIS 15 DAY OF June 2016



RECEIVED

JUN 09 2016

LAKE COUNTY SURVEYOR

INVOICE

11703 West 173rd Avenue
 Lowell, IN 46356
 Phone: (219) 690-1234
 Fax: (219) 690-1234

Date	Order No.
06/08/2016	153096
Bill To:	
Lake County Surveyor's Office 2293 N Main Crown Point, IN 46307	
Cady Marsh Ditch Project	

Description	Quantity	Unit Price	Total
Log Jam Removal (Clearing and Snagging) STA 27+00 to 29+50 STA 39+00 to 40+00 STA 43+25 to 45+00 STA 54+00 to 56+25 STA 57+00 to 59+00	250 LFT 100 LFT 175 LFT 225 LFT 200 LFT	\$10.75/LFT	\$10,212.50
Channel Bottom Dipping (Sediment Removal) STA 30+25 to 42+50 STA 123+80 to 131+00	454 CY 1066.66	\$11.25/CY	\$17,107.50
Temporary Wetland Crossing (Drag Line Mat) STA 44+00 to 48+00 *Refer to 03/11/2016 memo approved by Lake County Surveyor's Office	400 LFT	\$43.90/LFT	\$17,560.00
Channel Bank Excavation (Slope Repair) STA 44+00 to 45+00	100 LFT	\$31.00/LFT	\$3,100.00
Erosion Blanket (Spoil Piles) STA 30+25 to 42+50 STA 123+80 to 130+50	1770 SY 968 SY	\$5.00/SY	
(Bank Slope Repair/ Bare Soil Areas) STA 44+00 to 45+00	222 SY	\$5.25/SY	\$14,855.50
Mulched Seeding (Spoil Piles) STA 30+25 to 42+50 STA 65+50 to 74+00 STA 100+50 to 110+00 STA 112+00 to 117+00 STA 121+00 to 123+30 STA 123+80 to 130+50	.37 AC .25 AC .29 AC .15 AC .10 AC .20 AC	\$1125.00/AC	
(Bank Slope Repair/ Bare Soil Areas) STA 0+25 to 0+75 STA 38+20 to 39+50 STA 44+00 to 45+00	.10 AC .06 AC .10 AC		\$1,822.50

Erosion Blanket (Spoil Piles) *Additional blanketing needed beyond contracted amount, see attached memo			
STA 30+25 to 42+50	567 SY		
STA 65+50 to 74+00	566 SY		
STA 100+50 to 110+00	642 SY	\$5.00/SY	
STA 112+00 to 123+30	822 SY		
STA 123+80 to 130+50	949 SY		\$17,730.00

Total	\$82,388.00
Less 15% Retainage	(\$12,358.20)
Grand Total	\$70,029.80



RECEIVED
 JUN 09 2016
 LAKE COUNTY SURVEYOR

MEMO

11703 West 173rd Avenue
 Lowell, IN 46356
 Phone: (219) 690-1234
 Fax: (219) 690-1234

Date	
06/08/2016	
To: Lake County Surveyor's Office	

Re: Erosion blanket and seeding explanation

- Per Al Walus' 05/04/2016 email, erosion control and seeding on STA 57+00 to 60+00 and 110+50 to 112+00 have been excluded from contract.
- From STA 60+00 to 65+50, blanket was excluded due to narrow bank conditions and an asphalt parking lot, with sediment being hauled to another location on site.
- STA 30+25 to 42+50 contractually calls for 1770 SY, and used 2337 SY as built.
- STA 65+50 to 74+00 contractually calls for 1228 SY, and used 1794 SY as built.
- STA 100+50 to 110+00 contractually calls for 1372 SY, and used 2014 SY as built.
- STA 110+50 to 117+00 contractually calls for 939 SY. Due to relocation of drag line matting line item (see attached), blanket and seeding was completed from STA 117+00 to 121+00. For these combined areas, 2094 SY were used as built
- STA 123+80 to 130+50 contractually calls for 968 SY, and used 1917 SY as built due to a large amount of loose sediment to control.

Notes:
 Thank you for your business!

5-D-4
6-15-16



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

June 8, 2016

Bill Emerson, Jr.
Lake County Surveyor
2293 North Main Street
Crown Point, Indiana 46307

RE: 2015 Turkey Creek Lateral No. 3 – Culvert Improvements
Schervood Golf Course, Scherverville, St John Twp.
Invoice #34688-R Review

Dear Bill,

I have reviewed the Invoice #34688-R from Austgen Equipment dated April 27, 2016 in the amount of \$12,078.30 (see attached) in reference to work on the Turkey Creek Lateral No. 3 project. An inspection by MS4 Compliance Inspector Chris Brown was made on May 04, 2016, and by Thomas Burke, P.E. PhD of Christopher B. Burke Engineering Limited on May 18, 2016.

After the inspections, staff confirms the invoice submitted is consistent with the work accomplished to date. Therefore, it is recommended that the contractor receive final payment for the invoiced amount.

Should you have any questions or comments, or require additional information, please do not hesitate to let me know.

Sincerely,

Daniel V. Gossman
Drainage Administrator

LAKE COUNTY DRAINAGE BOARD

Kyle W. Allison Sr. D.H.

[Signature]

Benny Scheuch

APPROVED THIS 15 DAY OF June 20 16

Cc: Tom Regalado, Asst Drainage Admn
Chris Brown, MS4 Compliance Inspector
Cliff Duggan, Legal Advisor
Jean Shepherd, St John Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
John Dumbsky, Austgen Equipment Inc.



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor



Austgen Equipment, Inc.

11309 Broadway, Suite C3
Crown Point, IN 46307
Phone 219-213-2389
Fax 219-779-9623

Invoice

Date:	Invoice #
4/27/2016	34688-R

Bill To:
LAKE COUNTY DRAINAGE BOARD 2293 NORTH MAIN STREET CROWN POINT, IN 46307

Job Address:
TURKEY CREEK LATERAL # 3 TURKEY CREEK LATERAL # 3 Scherwood Golf Course Culvert Improvements

Terms	Rep	Service Date	Job No.	P.O. Number	
Net 30		4/27/2016	5274-C	Scherwood Golf Course	
Description			Quantity	Rate	Amount
Retainage Payment for Invoice Number 34688			1.00	12,078.30	12,078.30
Please remit to above address			Total	\$	12,078.30

RECEIVED
MAY 02 2016
LAKE COUNTY SURVEYOR

5-D-5
6-15-16



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

June 8, 2016

Bill Emerson, Jr.
Lake County Surveyor
2293 North Main Street
Crown Point, Indiana 46307

RE: 2015 Cady Marsh Ditch Maintenance – Griffith
Cline Avenue to Colfax Street, Griffith, Calumet Twp.
Invoice #10206 & 10207 Review

Dear Bill,

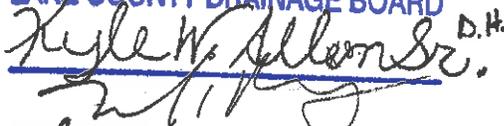
I have reviewed the invoices #10206 and #100207 from Delta III, inc. dated May 20, 2016 in the amounts of \$9,656.00 and \$10,422.15 respectively (see attached) in reference to work on the Cady Marsh Ditch Maintenance project in Griffith. An inspection was made by Assistant Drainage Administrator Tom Regalado on June 8, 2016.

After the inspection, staff confirms the invoices submitted are consistent with the work accomplished to date. Therefore, it is recommended that the contractor receive partial and final payment for the invoiced amounts.

Should you have any questions or comments, or require additional information, please do not hesitate to let me know.

Sincerely,


Daniel V. Gossman
Drainage Administrator

LAKE COUNTY DRAINAGE BOARD



APPROVED THIS 16 DAY OF June 20 16

Cc: Tom Regalado, Asst Drainage Admn
Cliff Duggan, Legal Advisor
Louise Neese, Calumet Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
Mike Eaton, Delta III, Inc.



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor





Office of the Lake County Surveyor

5-D-6
6-15-16

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

June 10, 2016

Bill Emerson, Jr.
Lake County Surveyor
2293 North Main Street
Crown Point, Indiana 46307

RE: 2016 Turkey Creek Lateral #6 – Emergency Culvert Replacement
Invoice #10218 Review

Dear Bill,

I have reviewed the Invoice from Delta III #10218 dated June 8, 2016 in the amount of \$11,245.05 (see attached) in reference to work on the Turkey Creek Lateral #6 – Emergency Culvert Replacement project. An inspection with Assistant Drainage Administrator Tom Regalado was made on June 8, 2016.

After the inspection, staff confirms the invoice submitted is consistent with the work accomplished to date. Therefore, it is recommended that the contractor receive final payment for the invoiced amount.

Should you have any questions or comments, or require additional information, please do not hesitate to let me know.

Sincerely,

Daniel V. Gossman
Drainage Administrator

LAKE COUNTY DRAINAGE BOARD D.H.

APPROVED THIS 15 DAY OF June 20 16

Cc: Tom Regalado, Asst Drainage Admn
Cliff Duggan, Legal Advisor
Milan Dakich, Ross Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
Mike Eaton, Delta III Inc.



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor



5-D-7
6-15-16



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

June 8, 2016

Bill Emerson, Jr.
Lake County Surveyor
2293 North Main Street
Crown Point, Indiana 46307

RE: 2015 – Main Beaver Dam Ditch – Maintenance Project
Blaine Street, Unincorporated St. John Township
Invoice #10186 Review

Dear Bill,

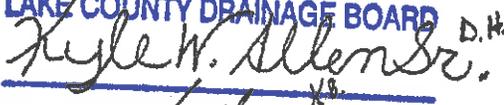
I have reviewed the Invoice # 10186 from Delta III Inc dated March 31, 2016 in the amount of \$10,425.75 (see attached) in reference to work on the Main Beaver Dam Maintenance project Blaine Street. An inspection was made by Assistant Drainage Administrator Tom Regalado on June 8, 2016.

After the inspection, staff confirms the invoice submitted is consistent with the work accomplished to date. Therefore, it is recommended that the contractor receive final payment for the invoiced amount.

Should you have any questions or comments, or require additional information, please do not hesitate to let me know.

Sincerely,


Daniel V. Gossman
Drainage Administrator

LAKE COUNTY DRAINAGE BOARD



APPROVED THIS 5 DAY OF June 2016

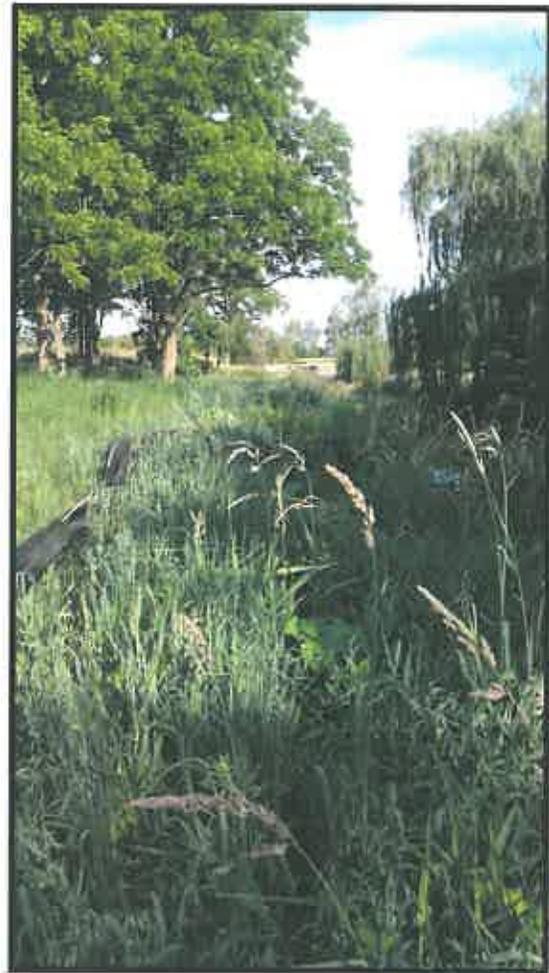
Cc: Tom Regalado, Asst. Drainage Admn.
Cliff Duggan, Legal Advisor
Jean Shepherd, St. John Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
Mike Eaton, Delta III Inc



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor





5-D-8
6-15-16

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

NOTICE OF AWARD

June 8, 2016

Austgen Equipment
11309 Broadway
Crown Point, Indiana 46307

Contract No. 2016-LC-4; Contract Amount: \$45,984.00
Project: 2016 Turkey Creek Lateral No. 13 Maintenance
Von Tobel, Schererville, St John Township

The Lake County Surveyor's Office on behalf of the Lake County Drainage Board, in accordance with the provisions of the contracts general conditions, you are hereby notified of the 2016 Turkey Creek Lateral No. 13 Maintenance – near Von Tobel, in Schererville, St John Twp. contract to Austgen Equipment.

Please contact our office to schedule a time during the week of June 13 through June 17, 2016 to sign the contract. As per Indiana Code 36-9-27-78 *“Upon execution of the contract, the successful bidder shall give to the board a bond payable to the board, in an amount fixed by the board but not less than the amount of the bid, and with a corporate surety licensed to do business in Indiana. The bond must be conditioned on the faithful performance of the contract and the payment of all expenses and damages incurred under the contract, including payment of all suppliers, laborers, and subcontractors. However, in lieu of a corporate surety bond, the board may accept:*

- (1) a cash bond;
- (2) a property bond; or
- (3) a bond from a sufficiently financed private bonding company”.

A “Notice to Proceed” along with a pre-construction meeting will be scheduled as soon as the contract is signed and the bond is posted.

Sincerely,

Daniel V. Gossman
Drainage Administrator

Cc: Bill Emerson, Jr., Lake County Surveyor
Cliff Duggan, Legal Advisor
Peter Katic, Drainage Board Attorney
Tom Regalado, Asst Drainage Admn
Jean Shepherd, St John Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee

5-E-4
6-15-16



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

June 8, 2016

Bill Emerson, Jr.
Lake County Surveyor
2293 North Main Street
Crown Point, Indiana 46307

RE: Stoney Run Ditch West Branch – Emergency Bank Repair
153rd Ave & Clay Street, Eagle Creek Twp.
Invoice #34687-R Review

Dear Bill,

I have reviewed the Invoice #34687-R from Austgen Equipment dated April 27, 2016 in the amount of \$3,379.73 (see attached) in reference to work on the Stoney Run Ditch West Branch – Emergency Bank Repair project. An inspection with me, MS4 Compliance Inspector Chris Brown and yourself was made and found this project to be complete.

Therefore, staff confirms the invoice submitted is commensurate with the work accomplished to date. For that reason, it is recommended that the contractor receive final payment for the invoiced amount.

Should you have any questions or comments, or require additional information, please do not hesitate to let me know.

Sincerely,


Daniel V. Gossman
Drainage Administrator

LAKE COUNTY DRAINAGE BOARD



APPROVED THIS 15 DAY OF June 20 16

Cc: Tom Regalado, Asst Drainage Admn
Chris Brown, MS4 Compliance Inspector
Cliff Duggan, Legal Advisor
John Jurs, Eagle Creek Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee
John Dumbky, Austgen Equipment Inc.



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

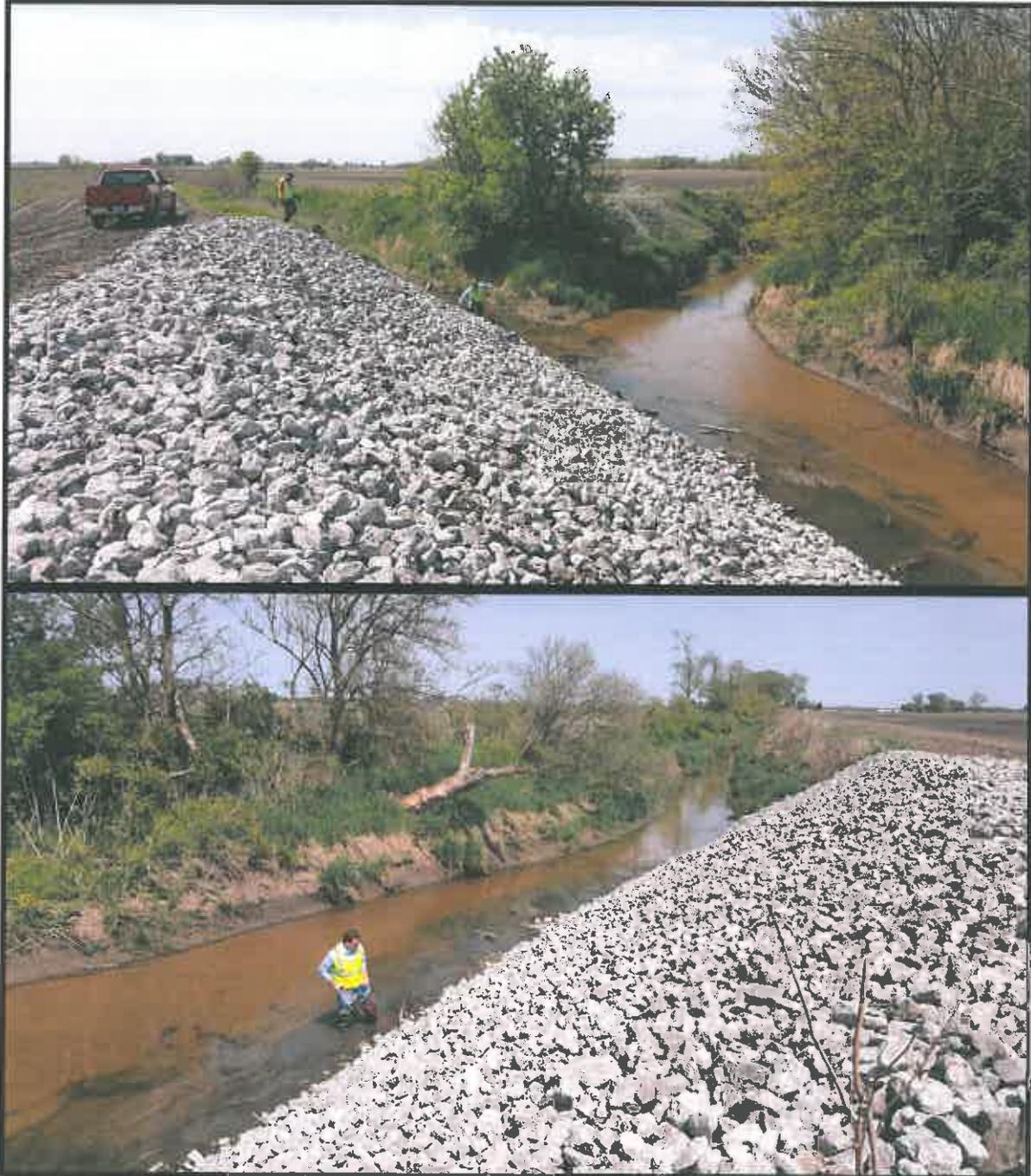




Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor



Austgen Equipment, Inc.

Invoice

11309 Broadway, Suite C3
 Crown Point, IN 46307
 Phone 219-213-2389
 Fax 219-779-9623

Date:	Invoice #
4/27/2016	34687-R

Bill To:
LAKE COUNTY DRAINAGE BOARD 2293 NORTH MAIN STREET CROWN POINT, IN 46307

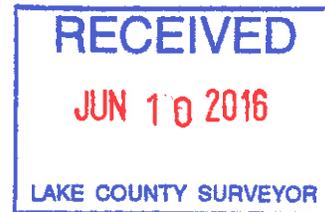
Job Address:
Stoney Run Ditch West Branch Stoney Run Ditch West Branch Emergency Bank Repair

Terms	Rep	Service Date	Job No.	P.O. Number	
Net 30		4/27/2016	5300-C	ER Bank Repair	
Description			Quantity	Rate	Amount
Retainage Payment for Invoice Number 34687			1.00	3,379.73	3,379.73
<div> <p>RECEIVED MAY 02 2016 LAKE COUNTY SURVEYOR</p> </div>					
Please remit to above address				Total	\$ 3,379.73



June 10, 2016

Landmark Engineering, LLC
7808 W. 103rd Street
Palos Hills, IL 60465



Attention: Brad Hensley, PE
Vice President

Subject: **Windy Knoll Estates**
Watercourse: Bull Run
Applicant: James & Janice Nichols
Engineer: Landmark Engineering, LLC
(CBBEL Project No. 93-169)

Dear Mr. Hensley:

At the request of the Lake County Surveyor's Office (LCSO), Christopher B. Burke Engineering, LLC (CBBEL) has performed a review of the material submitted for the subject project by Landmark Engineering, LLC. (Landmark). The project consists of the construction of a 3-lot residential subdivision east of Sheffield Avenue, approximately 1000 ft. north of 101st Avenue in Unincorporated Lake County, Indiana. A crossing of Bull Run is required to access the eastern lots of the subdivision. Bull Run does not contain mapped floodplain or floodway according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Lake County, Indiana and Incorporated Areas, Panels 210 of 480, dated January 18, 2012. The crossing location of Bull Run contains less than one square mile of drainage area; therefore, no permit from the Indiana Department of Natural Resources – Division of Water is required. The purpose of the CBBEL review was to comment on compliance with the Lake County, Indiana Stormwater Management Ordinance (Ordinance) and standard engineering methods. It is our understanding that DLZ completed a review on behalf of the LCSO for the Lake County Plan Commission regarding stormwater quantity and quality of the development. This review will consider the crossing of Bull Run and any other encroachments within the Lake County Drainage Board 75-ft. drainage easement.

CBBEL received the following items for review:

- Transmittal Letter, prepared by Landmark, dated May 26, 2016.
- Lake County Drainage Board Permit Application
- Stormwater Management Report, prepared by Landmark, dated March 15, 2016.
- "Primary Plat for Windy Knoll Estates" Plan Set, prepared by Landmark, dated March 15, 2016.

CBBEL staff has reviewed the supplied information and provides the following comments:

1. The proposed crossing only shows 1 ft. of cover over the twin 36-inch HDPE crossing. We recommend that a minimum of 2 ft. of cover be provided in accordance with the Ordinance.
2. Bedding details should be provided for the HDPE pipe in accordance within flexible pipe standards and manufacturer recommendations.
3. Proposed transitional grading should be provided at the crossing to reflect the top of roadway elevations and estimated limits of fill within the drainage easement. All areas outside of the gravel driveway should be properly stabilized and vegetated to reflect existing conditions.
4. TR-55 is not an acceptable hydrologic model to determine the peak flowrate of Bull Run. A public domain hydrologic model capable of producing hydrographs should be used (i.e. – TR-20, HEC-1, HEC-HMS, etc.) to determine the peak flowrate at the proposed crossing. This entails completing a critical duration analysis using Huff rainfall distributions for the watershed.
5. Back-up calculations should be provided to justify the use of a 65 runoff curve number assuming the entire watershed is wood/grass hydrologic soil (HSG) B land use. Utilizing the USDA NRCS soil survey map, it appears that all upstream area contains either C or D HSGs and contains several residential developments. The calculations should be revised accordingly.
6. An exhibit showing the tributary area should be provided to verify the value used in the submitted hydrologic modeling of Bull Run. Based on a preliminary calculation, we estimate that the tributary area may be twice as large as noted in the stormwater report.
7. The proposed crossing should be sized using HY-8 or similar and assume the proposed culverts will convey the 100-year peak flowrate below the top of bank (+/- 678 ft.).

If you have any questions please do not hesitate to call (847) 823-0500.

Sincerely,



Thomas T. Burke, Jr, PhD, PE
Vice President
Head, Water Resources Department

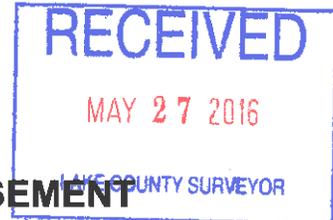
CC: Bill Emerson, Jr. – Lake County Surveyor
Dan Gossman – LCSO
Mary Ellen Kupsik – LCSO

DCOI
N:\INDIANA\93169\2016\Reviews\L_Windy Knoll Estates 061016.docx

6-A
6-15-16

APPLICATION NO. 298-6-16-I-III

APPLICATION FOR PERMISSION TO PERFORM THE FOLLOWING TASK(S) WITHIN A
REGULATED DRAIN
[PLEASE CHECK THE APPROPRIATE BOX]



- I. **WORK WITHIN A REGULATED DRAIN**
- II. **CONNECT/DISCHARGE INTO THE DRAIN/EASEMENT**
- III. **PLACE TEMPORARY/PERMANENT STRUCTURE IN THE DRAIN/EASEMENT**
- IV. **REDUCE EASEMENT FROM SEVENTY-FIVE (75) FEET**

TO THE LAKE COUNTY DRAINAGE BOARD, LAKE COUNTY, INDIANA;

(Name) LANDMARK ENGINEERING LLC

HEREINAFTER CALLED APPLICANT, HEREBY MAKES APPLICATION TO THE LAKE COUNTY DRAINAGE BOARD TO PERFORM THE ABOVE DESCRIBED ACTIVITY WITHIN A REGULATED DRAIN AND/OR THE EASEMENT FOR A REGULATED DRAIN WHICH IS PART OF THE DRAINAGE SYSTEM FOR LAKE COUNTY, INDIANA.

THE LOCATION IS AS FOLLOWS:

NAME OF WATERWAY: BULL RUN

SECTION(s): 36 TOWNSHIP: 35 RANGE: 10

ADDRESS OR DESCRIPTION OF LOCATION: 9449 SHEFFIELD - Dyer

THE REQUEST IS TO CONSIST OF THE FOLLOWING ACTIVITIES:

Placement of a culvert crossing

THE PURPOSE OF THE REQUEST IS TO:

Allow property owner to access the easterly portion of his property and develop two additional residential lots.

1. THE APPLICANT HEREBY AGREES TO RESTORE THE LAND, DRAINAGE DITCHES AND ALL OTHER SURFACES AND/OR STRUCTURES WITHIN THE DITCH AND REGULATED DRAIN EASEMENT TO A CONDITION AS GOOD OR BETTER THAN THEY WERE PRIOR TO THE COMMENCEMENT OF THE WORK.
2. THE APPLICANT SHALL AND WILL INDEMNIFY AND HOLD HARMLESS ANY AND ALL COUNTY ENTITIES, INCLUDING BUT NOT LIMITED TO THE COUNTY OF LAKE, BOARD OF COMMISSIONERS OF THE COUNTY OF LAKE, THE LAKE COUNTY DRAINAGE BOARD, LAKE COUNTY SURVEYOR, ITS ELECTED OFFICIALS, ITS APPOINTED OFFICIALS, ITS OFFICERS, ITS EMPLOYEES, ITS DEPARTMENTS, ITS BOARDS AND/OR AGENTS FROM AND AGAINST ANY AND ALL DAMAGES, INJURIES, LOSSES, DEMANDS, OR COSTS PROXIMATELY CAUSED BY THE FAULT, CULPABILITY OR NEGLIGENCE OF THE APPLICANT IN THE PERFORMANCE OF THE PERMITTED WORK OVER AND ACROSS THE DRAINS OR DRAINAGE RIGHTS-OF-WAY UNDER THE JURISDICTION OF THE LAKE COUNTY DRAINAGE BOARD.
3. **IMPORTANT CLAUSE IN THIS PERMIT APPLICATION:** THE APPLICANT FURTHER AGREES TO NOTIFY THE LAKE COUNTY DRAINAGE BOARD OR THE LAKE COUNTY SURVEYOR IN WRITING AT LEAST FIVE (5) DAYS IN ADVANCE OF THE COMMENCEMENT OF THE WORK DESCRIBED IN THIS APPLICATION, AND WILL ALSO GIVE NOTICE TO THE LAKE COUNTY DRAINAGE BOARD OR THE LAKE COUNTY SURVEYOR THE DAY PRECEDING THE COMPLETION OF THE WORK. FAILURE TO PROVIDE SUCH NOTICE MAY CAUSE REVOCATION OF THE PERMIT(S) AND APPLICANT MAY INCUR PENALTIES. PLEASE SEND NOTICES TO: **LAKE COUNTY DRAINAGE BOARD, ATTN: LAKE COUNTY DRAINAGE BOARD SECRETARY, 2293 N. MAIN STREET, CROWN POINT, IN 46307**
- 4(a). THE APPLICANT AGREES TO AVOID CAUSING DAMAGE TO THE ESTABLISHED REGULATED DRAIN OR TO LANDOWNERS AFFECTED BY THE DRAIN, PURSUANT TO I.C.36-9-27-72(D).
- 4(b). FOR APPLICATIONS REGARDING THE PLACEMENT OF TEMPORARY STRUCTURES IN THE DRAIN'S EASEMENT (BOX III, PAGE 1), SUCH AS FENCES, TREES, GARDENS, SHEDS, ETC., THE APPLICANT UNDERSTANDS THAT, IF THE DRAINAGE BOARD GRANTS PERMISSION TO PLACE SAID TEMPORARY STRUCTURES WITHIN THE DRAINAGE EASEMENT, SAID PLACEMENT IS AT THE OWNER'S RISK. SHOULD THE COUNTY SURVEYOR/DRAINAGE BOARD, THEIR AGENTS, REPRESENTATIVES, CONTRACTORS OR OTHERS AT THE DIRECTION OF SAID COUNTY SURVEYOR/DRAINAGE BOARD, NEED ACCESS TO THE DRAIN OR EASEMENT AND THE STRUCTURE REQUIRES REMOVAL, THE OWNER SHALL REMOVE SAME AT THE OWNER'S EXPENSE. SHOULD THE OWNER FAIL TO REMOVE SAME IN A TIMELY FASHION, THEN THE COUNTY SURVEYOR/DRAINAGE BOARD SHALL CAUSE SAME TO BE REMOVED AND THE OWNER SHALL HAVE NO RECOURSE. AFTER COMPLETION OF THE COUNTY SURVEYOR'S/DRAINAGE BOARD'S ACTIVITY, THE OWNER SHALL HAVE THE RIGHT TO REINSTALL THE TEMPORARY STRUCTURE IN COMPLIANCE WITH THE COUNTY SURVEYOR'S/DRAINAGE BOARD'S REQUIREMENTS. THE COUNTY SURVEYOR/DRAINAGE BOARD MAY REQUIRE PAYMENT FROM THE OWNER FOR THE COST OF THE REMOVAL OR REPLACEMENT FOR ANY OF SAID ITEMS, PURSUANT TO STATUTE.
5. THE APPLICANT SHALL HAVE WORKMAN'S COMPENSATION INSURANCE AS REQUIRED BY STATE LAW.
6. THE APPLICANT SHALL PAY THE LAKE COUNTY SURVEYOR'S OFFICE AN APPLICATION FEE(S) PRIOR TO THE APPLICATION BEING CONSIDERED AT THE NEXT MONTHLY LAKE COUNTY DRAINAGE BOARD MEETING.
7. THE APPLICANT SHALL CARRY PUBLIC LIABILITY INSURANCE MEETING THE MAXIMUM DOLLAR LIMITS AS SPECIFIED IN I.C. 34-13-3-1 ET SEQ. OR ANY SUBSEQUENTLY ENACTED APPLICABLE STATUTES, AND SHALL LIST THE COUNTY OF LAKE, THE BOARD OF COMMISSIONERS OF THE COUNTY OF LAKE, THE LAKE COUNTY DRAINAGE BOARD, LAKE COUNTY SURVEYOR, ITS ELECTED OFFICIALS, ITS APPOINTED OFFICIALS, ITS OFFICERS, ITS EMPLOYEES, ITS DEPARTMENTS, ITS BOARDS AND AGENTS AS OTHER INSURED.
8. **THIS PERMIT DOES NOT OBTAIN THE NEED TO OBTAIN ANY OTHER FEDERAL, STATE AND/OR LOCAL AUTHORIZATION, IF REQUIRED.**

9 BY SUBMITTING THIS APPLICATION, THE APPLICANT HEREBY STATES THE FOLLOWING:

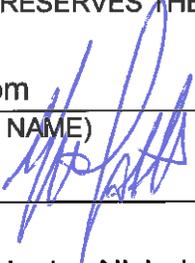
- A. THE PROPOSED WORK MEETS ALL HYDRAULIC REQUIREMENTS THAT WILL PERMIT THE DRAIN TO FUNCTION PROPERLY. (I.C. 36-9-37-72 (C)).
- B. THE REGULATED DRAIN IS ADEQUATE TO HANDLE THE ADDITIONAL FLOW OF WATER, IF ANY
- C. NO HARMFUL POLLUTION IS LIKELY TO RESULT. (I.C. 36-9-27-17(C)).

10. ENGINEERING PLANS, WHICH SUBSTANTIATE THE ABOVE STATEMENTS, MUST ACCOMPANY THIS APPLICATION. THESE PLANS MUST INCLUDE SUFFICIENT DETAIL TO ALLOW VERIFICATION OF THE ABOVE STATEMENTS. (THESE PLANS SHOULD GENERALLY INCLUDE DIMENSIONS, ELEVATIONS, CALCULATIONS, DESCRIPTIONS OR THE QUANTITIES AND TYPES OF MATERIAL TO BE USED, DISCHARGE CALCULATIONS AND OTHER RELEVANT INFORMATION.)

11. UPON COMPLETION OF THE WORK, "AS BUILT PLANS", SIGNED AND SEALED BY AN INDIANA REGISTERED PROFESSIONAL ENGINEER, SHALL BE FORWARDED TO THE LAKE COUNTY DRAINAGE BOARD WITHIN 30 DAYS.

12. THE DRAINAGE BOARD RESERVES THE RIGHT TO WAIVE ANY OF THE REQUIREMENTS STATED HEREON.

SUBMITTED: Mark Landstrom DATE: 3/23/16
(PRINT OR TYPE NAME)



(SIGNATURE)

SUBMITTED FOR: James & Janice Nichols

ADDRESS: 9449 Sheffield Avenue

Dyer, IN 46311

PHONE#: (219) 365-3742

(THIS SECTION FOR DRAINAGE BOARD USE ONLY)

LAKE COUNTY DRAINAGE BOARD

DATE: _____ APPROVED: _____ DENIED: _____

SHOULD ANY APPLICATIONS BE SUBMITTED BY AN AGENT, CONSULTANT, ENGINEER, REPRESENTATIVE OR OTHERS PURPORTING TO ACT AS THE OWNER, THEN A POWER OF ATTORNEY SHALL BE DULY EXECUTED AND ATTACHED TO THESE APPLICATIONS. [SEE ATTACHMENT I]

APPROVAL SHALL BE VALID FOR A PERIOD OF TWO YEARS FROM THE DATE OF APPROVAL. SHOULD THE WORK AND ALL RELATED ACTIVITIES NOT BE COMPLETED BY THAT TIME, PETITIONER IS REQUIRED TO REAPPLY. SHOULD THE SCOPE OF WORK, PLANS AND SPECIFICATIONS, OR ACTIVITIES LISTED HEREIN BE MODIFIED, PETITIONER MUST NOTIFY THE LAKE COUNTY SURVEYOR AND THE DRAINAGE BOARD OF THESE MODIFICATIONS FOR REVIEW AND/OR APPROVAL/DENIAL BY THE COUNTY SURVEYOR/DRAINAGE BOARD.

"ATTACHMENT I"

IN THE MATTER OF: BULL RUN
(Name of Regulated Drain)

9449 SHEFFIELD - Dyer S1/2 SE1/4 SECTION 36-35-10
(Location)

POWER OF ATTORNEY

(If Applicable)

That I, JAMES & JANICE NICHOLS, born 1-27-47 - 11-12-47, of

DYER, Indiana, do hereby make, constitute and appoint MARK LANDSTROM

LANDMARK ENGINEERING LLC, born JULY 6, 1955, of PALOS HILLS, IL, ~~my~~ my true and

lawful attorney-in-fact, for me and in my name, place and stead to exercise the following:

To represent me in all matters pertaining to the attached Application/Petition, before the
Lake County Drainage Board;

To execute instruments required for said Application/Petition;

To do and perform each and every act and thing whatsoever requisite and necessary or proper to
be done in all matters affecting said Application/Petition, and with the same force and effect as though I
were personally present and acting for myself;

I do hereby ratify and confirm all that my attorney shall do or cause to be done, by virtue of this
power of attorney.

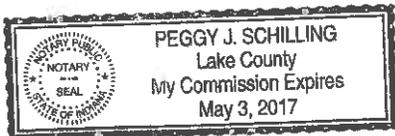
James & Janice Nichols

STATE OF INDIANA)
)
COUNTY OF LAKE)

Subscribed and sworn to before me a Notary Public in and for _____ said County
and State came _____ and acknowledged
the foregoing instrument this _____ day of _____, 200__.

Commission Expires: May 3 2017
Lake County Resident: Lake

Peggy J. Schilling





LAKE COUNTY STORM WATER PERMIT

Lake County MS4 Program * 2293 N. Main St. * Crown Point, IN 46307
Phone: (219) 755-3745 * Fax: (219) 755-3750

GENERAL PROJECT INFORMATION

Project Name: Windy Knoll Estates
Project Location: 9949 S. Sheffield Avenue, Dyer, Indiana 46311
Project Acreage: 16.5
Hydrologic Unit Code: 07120001140010
Plan Received Date: 09/03/2015
Plan Reviewed Date: 05/18/16 Approved, Expires 05/18/2021
Project Owner's Name: James & Janice Nichols
Address: 9949 S. Sheffield Avenue,
City/State/Zip: Dyer, Indiana 46311
Phone: 219-365-3742
E-Mail:

PLAN PREPARER

Plan Preparer: Mark Landstrom/Brad E. Hensley, Landmark Engineering, LLC
Address: 7808 W. 103rd Street,
City/State/Zip: Palos Hills, IL 60465
Phone: 708-599-3737 Fax: 708-599-2291
E-Mail: bhensley@landmark80.com

PLAN REVIEWERS (Technical)

Plan Reviewer: DLZ - Frank Stewart (Quantity and Quality)
Address: 900 Ridge Rd.
City/State/Zip: Munster, IN 46321
Phone: (219) 836-5884
E-Mail: fstewart@dlz.com

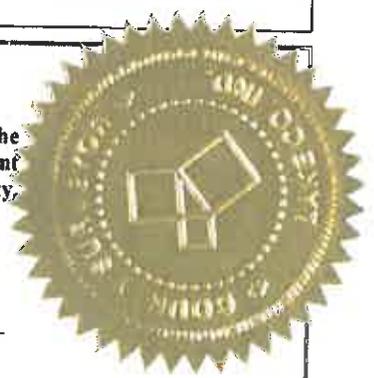
PLAN IS ADEQUATE

A comprehensive plan review has been completed and it has been determined that the plan satisfies the minimum requirements of 327 IAC 15-5 and Lake County Ordinance #1365C. Submit Rule 5 Notice of Intent (State Form 47487) to Indiana Department of Environmental Management (IDEM) - Office of Water Quality. Attach this permit with your Rule 5 submittal to IDEM.

Plan Approval Authorization:

(Signature/ date) 
Richard Budziak/ Dan Gossman - MS4 Department


Juan Lopez - Surveying Department



This review is an evaluation of the submitted Storm Water Pollution Prevention Plan (SWPPP). The Plan has not been reviewed for other local, state, or federal permits that may be required to proceed with this project. All proposed storm water pollution prevention measures and those referenced in this review must meet the design criteria and standards set forth in the Lake County Storm Water Technical Standards Manual, Indiana Storm Water Quality Manual or equivalent Guidance Documents.

Comments:

A comprehensive review of the SWPPP has been conducted for compliance with local Ordinance # 1365C. The activities associated with the construction of this project will be subject to periodic MS4 compliance inspections and regulations through the Lake County Storm Water Management Ordinance #1365C. Violations may result in fines, stoppage of work, imprisonment as well as referral to state and federal regulatory agencies for additional enforcement.



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

May 18, 2016

Ned Kovachevich
DIRECTOR, LAKE COUNTY PLAN COMMISSION
2293 NORTH MAIN STREET
CROWN POINT, IN 46307

RE: Windy Knoll Estates [15-008]

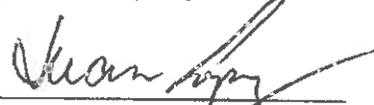
Dear Ned,

Attached comments are information to the LCPC and are intended to clarify quantity and quality of storm water requirements with Engineering and construction contractors supporting this project. DLZ Indiana, Inc.'s [Frank Stewart] has reviewed this site with LCSO staff and self. We have no objections with a secondary approval.

Should comments or concerns be listed, this office will forward any additional information submitted to us upon receipt of same, as well as our additional comments, if appropriate.

Please note:

- 1] NO CONSTRUCTION CAN BEGIN UNTIL A STORMWATER PERMIT IS OBTAINED.
- 2] A pre-construction meeting must take place with Lake County MS4 department 48 hours prior to construction, also contact Chris Brown or Rich Budziak @219-755-3745.
- 3] "Prior to any earth disturbing activities on each individual lot, the lot owner must review the Stormwater Obligations pamphlet for Lake County and sign an acknowledgment agreement form that they have received such pamphlet for stormwater obligations in unincorporated Lake County, Indiana. Copies of the pamphlet are available at the Lake County Surveyor's Office."


Juan Lopez, Surveying Administrator


LCSO MS 4 REPRESENTATIVE

Enclosures
COMMENTS

- APPROVED Secondary
- DENIED
- DEFER: IF FURTHER SUBMISSIONS/REVISIONS ARE REQUIRED, PLEASE FILE SAME WITH THE LAKE COUNTY SURVEYOR'S OFFICE.
- NO COMMENT-ENGINEERING REVIEW FEE NOT COLLECTED

cc:



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

FACSIMILE / EMAIL TRANSMISSION COVER SHEET

Date: May 16, 2016
To: Juan Lopez
Organization: Lake County Surveyor's Office
Phone: 219-755-3745
Fax: 219-755-3750
From: Frank Stewart

Number of Pages Transmitted Including This Page: 1

If there is any difficulty encountered with this transmission, please call (219) 836-5884

Project: Windy Knoll Estates
Subject: Drainage review of above reference project

Dear Juan,

DLZ Indiana, LLC (DLZ) has reviewed the initial plans, response to comments and revised plans for the above referenced project at the direction of the Lake County Surveyor's Office (LCISO). The reviewed was requested to determine compliance with the Lake County Ordinance 1365C (the Ordinance). The review was primarily conducted with consideration to the overall project release rate and impacts on the existing storm sewer system.

The submittal includes a request for variance from detention requirement. The project consists of a total of 3 residential lots, each larger than 3 acres and direct discharging to Bull Run Ditch. The calculations provided indicate the 100-year upstream runoff is contained within the channel along the site and a small increase of the 100-year peak release rate from the developed is also indicated. The small increase is not anticipated to significantly increase the peak elevations in Bull Run Ditch.

The submittal also includes a request for variance from water quality standards. The project proposes to incorporate a vegetative filter strip and includes an O & M Manual for the filter strip. While the filter strip alone does not meet all water quality requirements, it is recognized as a

accepted water quality practice and does provide water quality improvement to runoff with a minimal burden of maintenance on the property owner

DLZ concludes the final plans, studies / reports and responses provided to DLZ with respect to this project will satisfactorily meet the ordinance standards when constructed with the exceptions of the variances discussed above. DLZ recommends consideration for approval including the variances.

15-008

STORMWATER MANAGEMENT REPORT FOR:

**WINDY KNOLL ESTATES
9949 SHEFFIELD AVENUE
DYER, IN
September 3, 2015
(Revised: January 5, 2016)
(Revised: March 15, 2016)**



A handwritten signature in black ink, appearing to read "M. Landstrom", written over a white background.

**WINDY KNOLL ESTATES
9949 SHEFFIELD AVENUE
DYER, IN**

NARRATIVE DESCRIPTION

This project is for a new 3-lot subdivision. The proposed subdivision stormwater will flow overland to the existing stream (Bull Run), which runs through the project site.

The existing residential site consists of 16.50 total acres of mostly undeveloped land. A single family home and two garages are located along Sheffield Avenue on the west side of the property. The surrounding properties are residential. The site currently predominantly drains toward Bull Run.

The proposed project includes subdividing the existing 16.50 ac residential property into three lots. The proposed lot sizes will be 10.10 ac (Lot 1), 3.40 ac (Lot 2) and 3.00 ac (Lot 3). The existing single family home and garages will remain on Lot 1 while two new single family homes will be constructed on Lots 2 & 3. The proposed development of this property will slightly increase the stormwater runoff rate from 7.38 cfs to 7.56 cfs during a 100-yr, 24-hr storm event (see attached HydroCAD calculations). *Due to the minimal increase of runoff, 0.18 cfs, caused by the development, we will respectfully request a detention waiver for this project.*

Temporary and permanent erosion and sedimentation control devices to be utilized during construction include silt fences and temporary seeding where required. These devices will be implemented on a precedence schedule outlined in the Stormwater Pollution Protection Plan (SWPPP) and on the construction documents. The general contractor will be responsible to continuously maintain sedimentation and erosion control devices. Established vegetative cover and rip-rap at the proposed culverts' ends will be used for permanent erosion and sedimentation control.

CALCULATIONS & EXHIBITS

LANDMARK

ENGINEERING LLC

Project: Windy Knoll Subdivision

Job No: 15-03-004

Subject: Proposed Culvert(s) Capacity Calculations

Dated: 3/15/16

TR55 flow calculations for upstream tributary area:

91.95 cfs

(see attached TR55 report)

PROPOSED CULVERT

$D = 36" = 3'$

$n = 0.013 = \text{HDPE (smooth walled)}$

$S = 0.005$

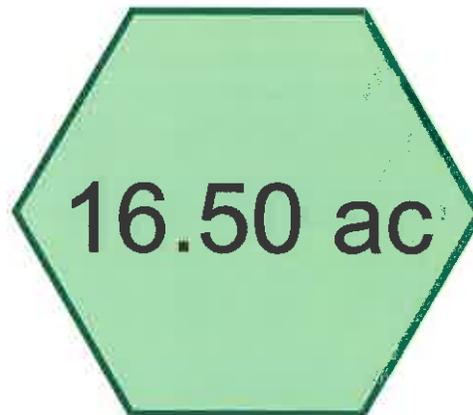
$$V = \frac{1.49}{0.013} \times \left(\frac{3}{4}\right)^{2/3} \times (0.005)^{1/2} = 6.69 \text{ fps}$$

$$Q = VA = 6.69 \text{ fps} \times \pi 1.5^2 = \boxed{47.29 \text{ cfs}}$$

Note: This value will be double for two (2) culverts.

CONCLUSION

The proposed culverts have a greater capacity than the upstream tributary flow. Therefore, the plan will require 2-36" Culverts for the driveway crossing.



Windy Knoll Estates - Existing



Existing

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
15.849	72	Woods/grass comb., Good, HSG C (16.50 ac)
0.362	89	Gravel roads, HSG C (16.50 ac)
0.074	98	Paved parking, HSG C (16.50 ac)
0.217	98	Roofs, HSG C (16.50 ac)
16.502		TOTAL AREA

Existing

Huff 0-10sm 1Q 0.50 hrs A-100yr 0.5hr Rainfall=2.16"

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Page 3

Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Runoff = 19.68 cfs @ 0.28 hrs, Volume= 0.542 af, Depth= 0.39"

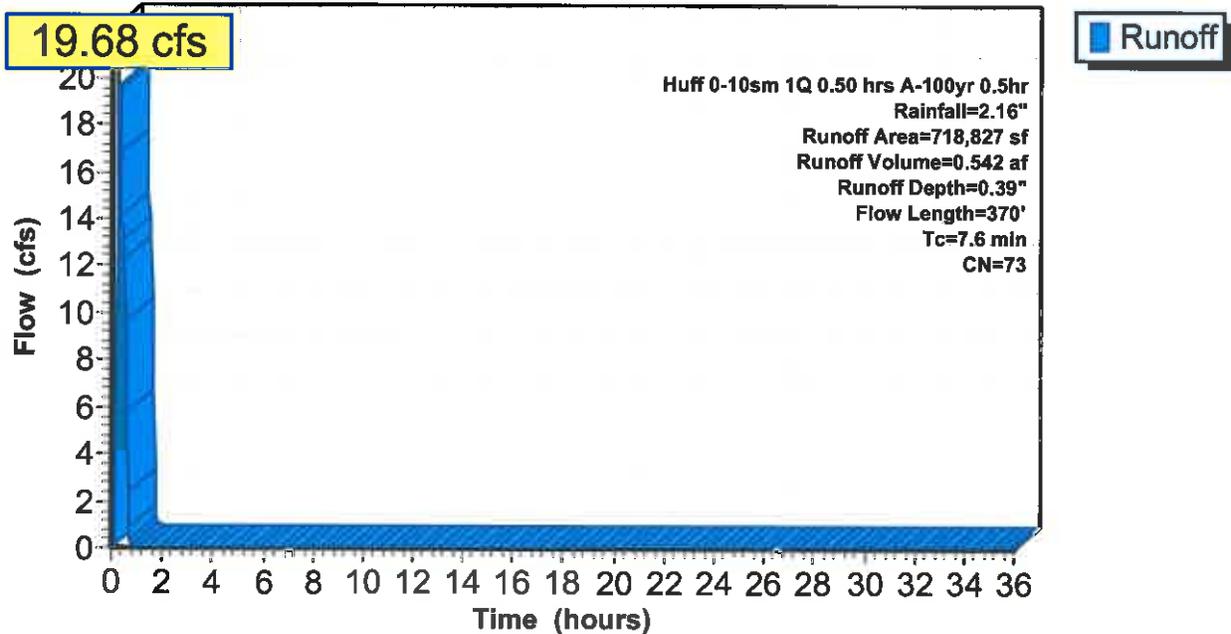
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Huff 0-10sm 1Q 0.50 hrs A-100yr 0.5hr Rainfall=2.16"

Area (sf)	CN	Description
9,453	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
15,769	89	Gravel roads, HSG C
690,382	72	Woods/grass comb., Good, HSG C
718,827	73	Weighted Average
706,151		98.24% Pervious Area
12,676		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow
					Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow
					Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Hydrograph



Existing

Huff 0-10sm 1Q 1.00 hrs B-100yr 1hr Rainfall=2.72"

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Page 4

Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Runoff = 20.54 cfs @ 0.38 hrs, Volume= 0.950 af, Depth= 0.69"

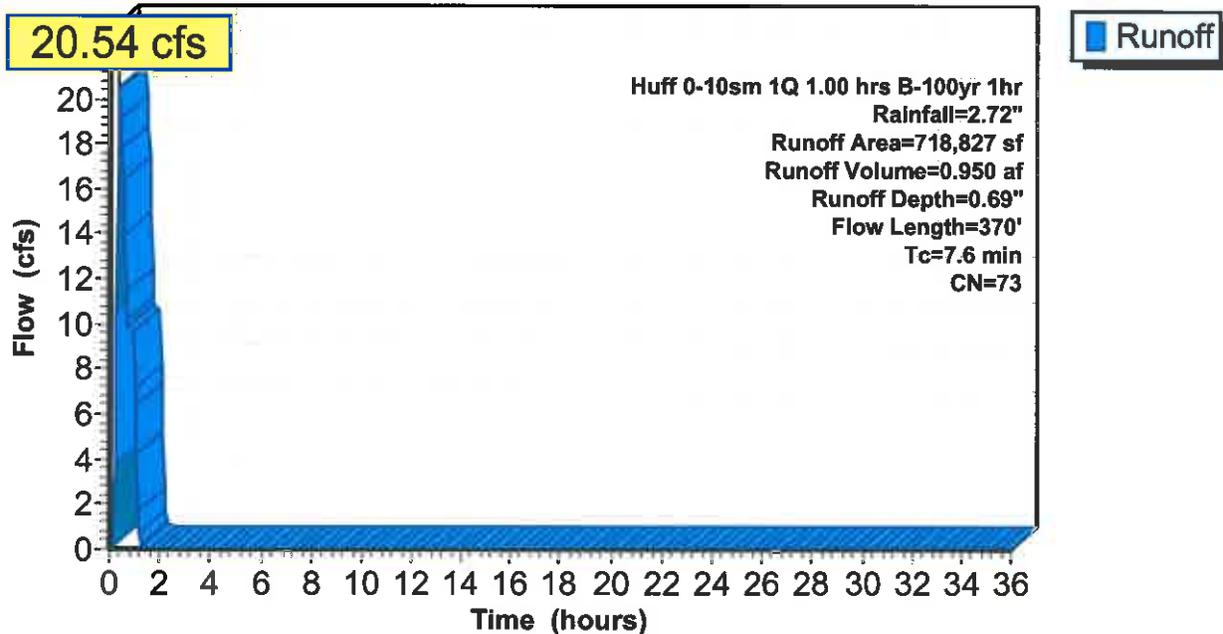
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Huff 0-10sm 1Q 1.00 hrs B-100yr 1hr Rainfall=2.72"

Area (sf)	CN	Description
9,453	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
15,769	89	Gravel roads, HSG C
690,382	72	Woods/grass comb., Good, HSG C
718,827	73	Weighted Average
706,151		98.24% Pervious Area
12,676		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Hydrograph



Existing

Huff 0-10sm 1Q 3.00 hrs C-100yr 3hr Rainfall=3.60"

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Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Runoff = 14.31 cfs @ 0.83 hrs, Volume= 1.715 af, Depth= 1.25"

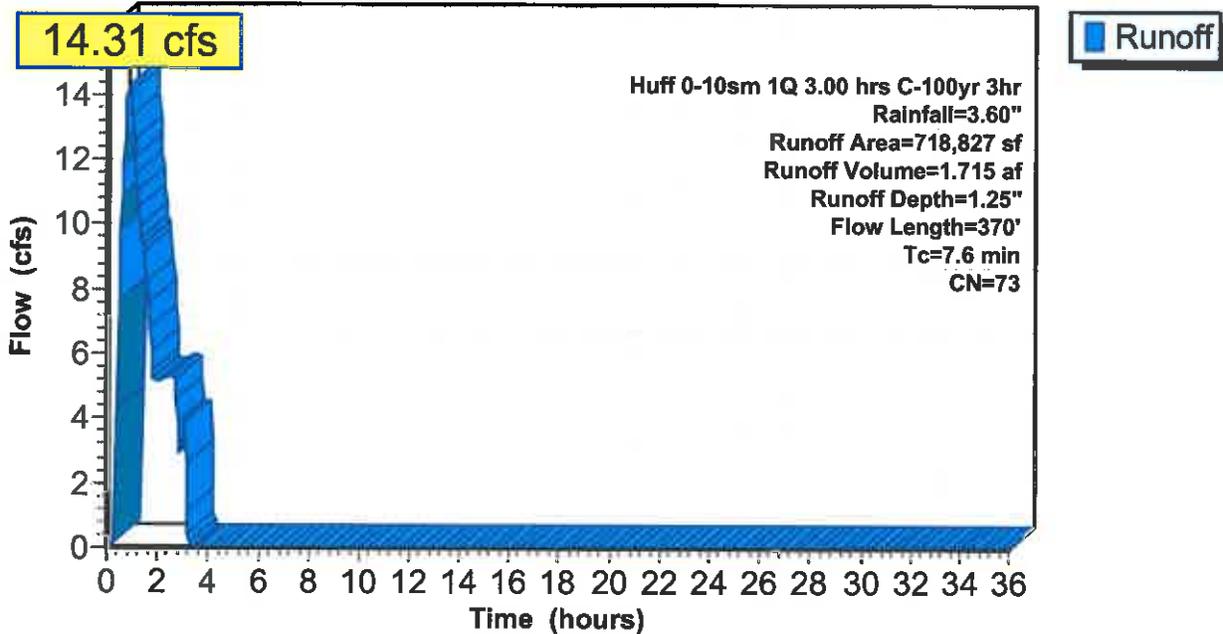
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff 0-10sm 1Q 3.00 hrs C-100yr 3hr Rainfall=3.60"

Area (sf)	CN	Description
9,453	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
15,769	89	Gravel roads, HSG C
690,382	72	Woods/grass comb., Good, HSG C
718,827	73	Weighted Average
706,151		98.24% Pervious Area
12,676		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Hydrograph



Existing

Huff 0-10sm 1Q 6.00 hrs D-100yr 6hr Rainfall=4.32"

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Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Runoff = 10.28 cfs @ 1.54 hrs, Volume= 2.422 af, Depth= 1.76"

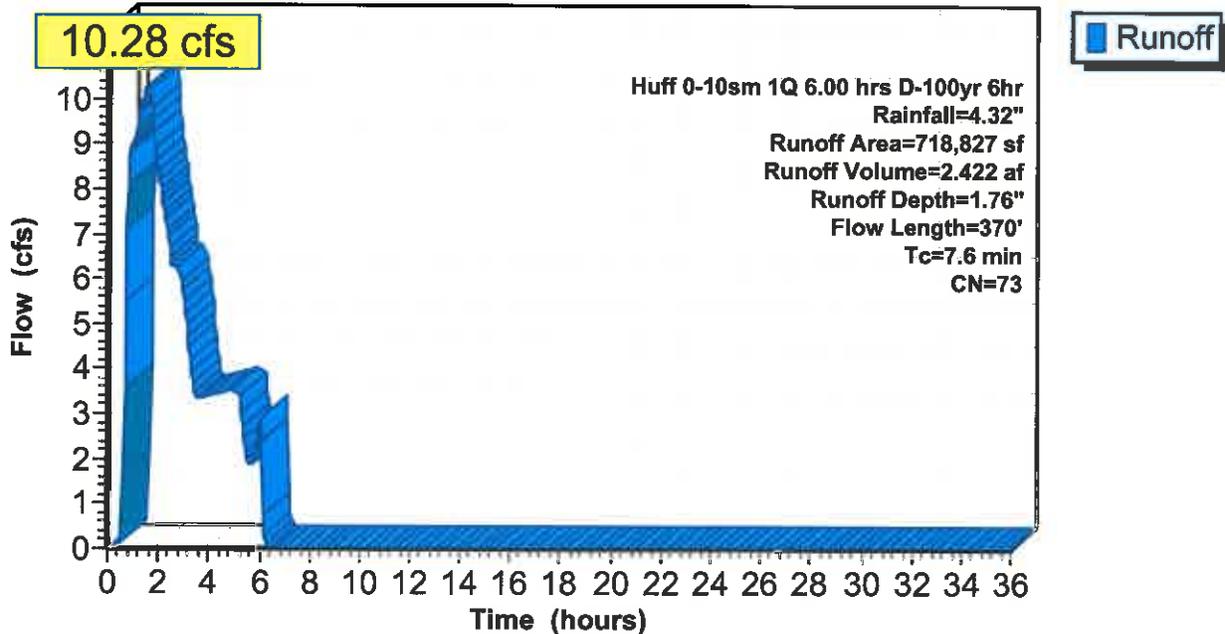
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff 0-10sm 1Q 6.00 hrs D-100yr 6hr Rainfall=4.32"

Area (sf)	CN	Description
9,453	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
15,769	89	Gravel roads, HSG C
690,382	72	Woods/grass comb., Good, HSG C
718,827	73	Weighted Average
706,151		98.24% Pervious Area
12,676		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Hydrograph



Existing

Huff 0-10sm 2Q 12.00 hrs E-100yr 12hr Rainfall=5.04"

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Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Runoff = 9.24 cfs @ 5.47 hrs, Volume= 3.179 af, Depth= 2.31"

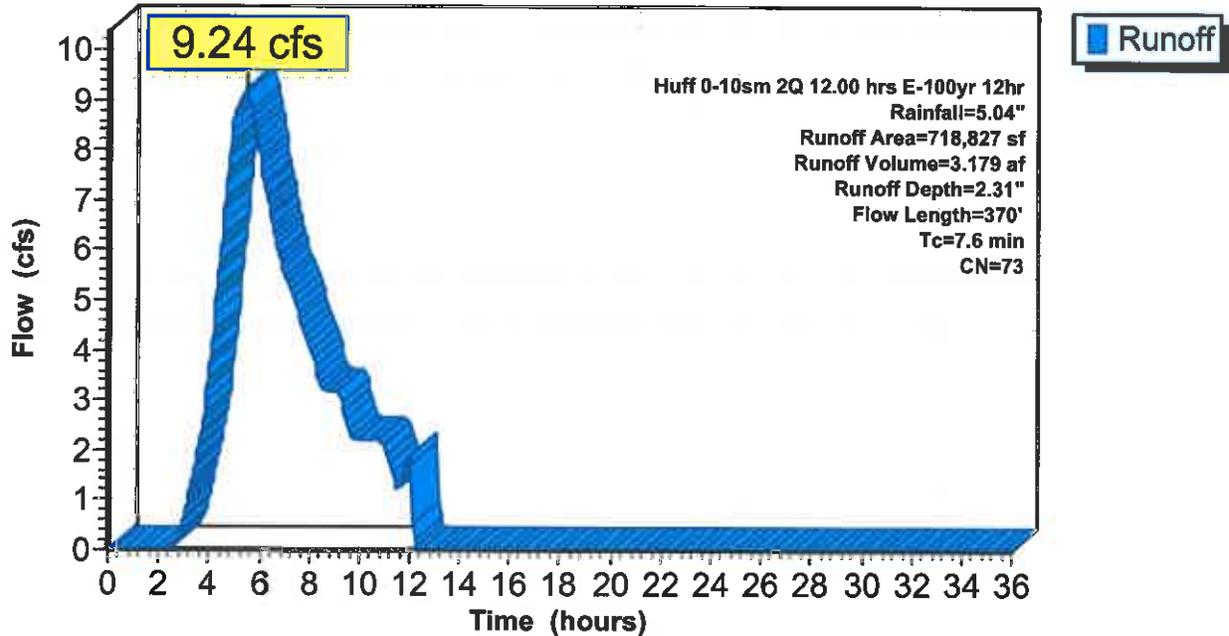
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff 0-10sm 2Q 12.00 hrs E-100yr 12hr Rainfall=5.04"

Area (sf)	CN	Description
9,453	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
15,769	89	Gravel roads, HSG C
690,382	72	Woods/grass comb., Good, HSG C
718,827	73	Weighted Average
706,151		98.24% Pervious Area
12,676		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow
					Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow
					Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Hydrograph



Existing

Huff 0-10sm 3Q 24.00 hrs F-100yr 24hr Rainfall=5.83"

Prepared by LANDMARK ENGINEERING LLC

Printed 12/23/2015

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Page 8

Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Runoff = 7.38 cfs @ 15.70 hrs, Volume= 4.054 af, Depth= 2.95"

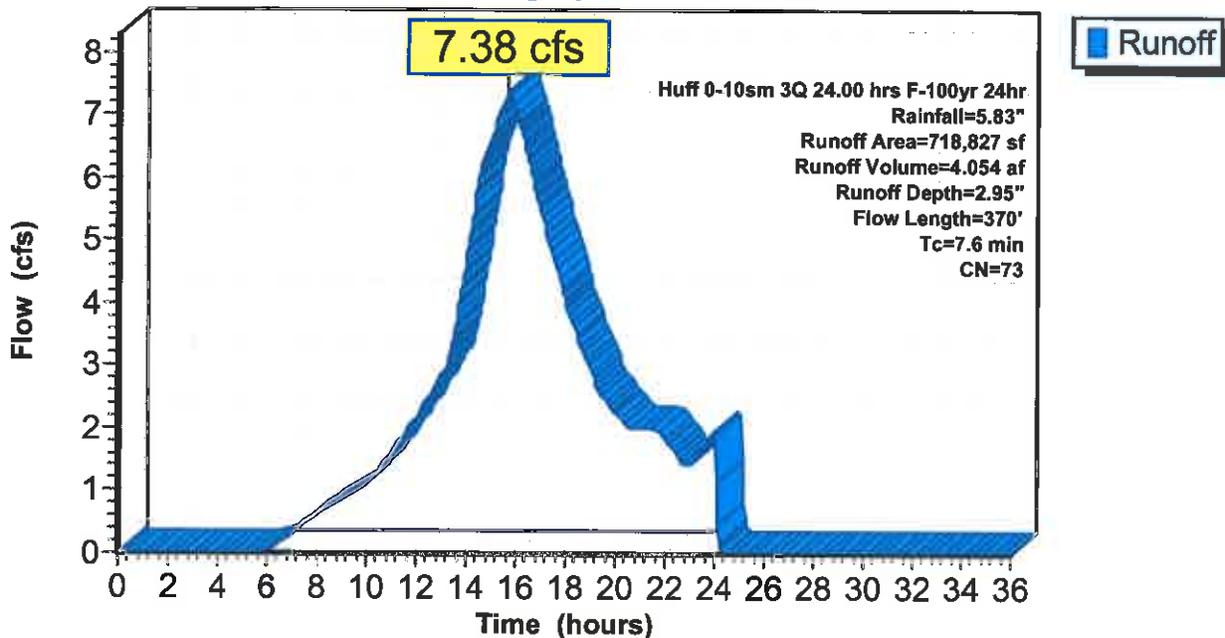
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff 0-10sm 3Q 24.00 hrs F-100yr 24hr Rainfall=5.83"

Area (sf)	CN	Description
9,453	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
15,769	89	Gravel roads, HSG C
690,382	72	Woods/grass comb., Good, HSG C
718,827	73	Weighted Average
706,151		98.24% Pervious Area
12,676		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Existing

Hydrograph



16.50 ac

Windy Knoll Estates - Proposed



Drainage Diagram for Proposed-R
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Proposed-R

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
15.215	72	Woods/grass comb., Good, HSG C (16.50 ac)
0.875	89	Gravel roads, HSG C (16.50 ac)
0.074	98	Paved parking, HSG C (16.50 ac)
0.330	98	Roofs, HSG C (16.50 ac)
16.494		TOTAL AREA

Proposed-R

Huff 0-10sm 1Q 0.50 hrs A-100yr 0.5hr Rainfall=2.16"

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Page 3

Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Runoff = 21.41 cfs @ 0.28 hrs, Volume= 0.587 af, Depth= 0.43"

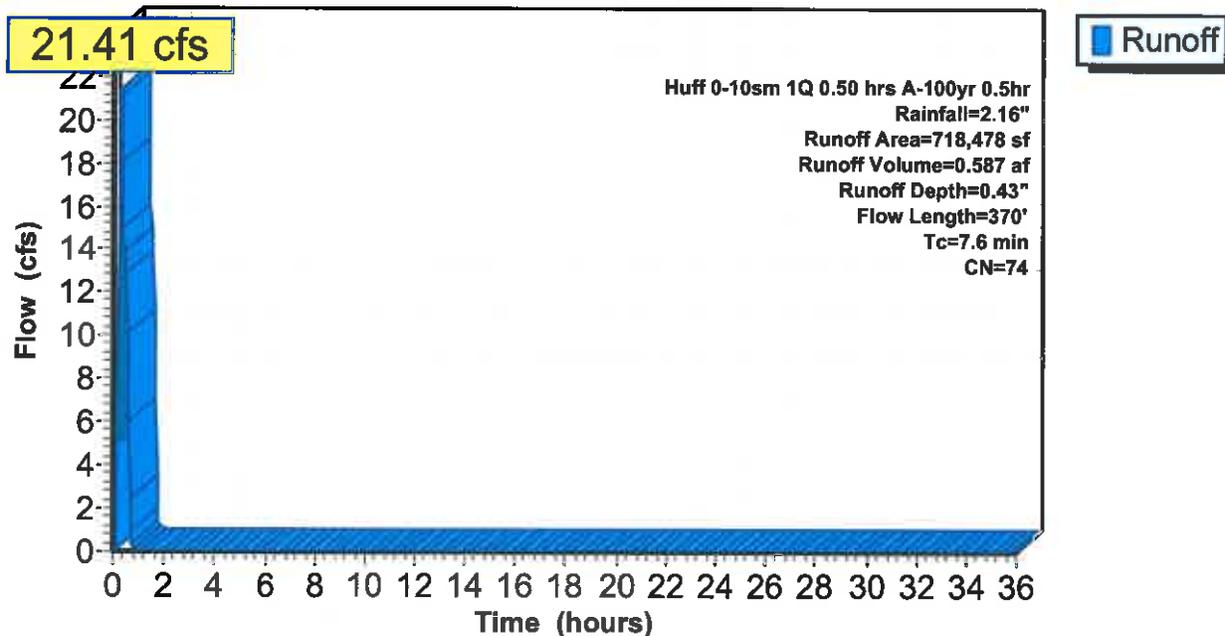
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff 0-10sm 1Q 0.50 hrs A-100yr 0.5hr Rainfall=2.16"

Area (sf)	CN	Description
14,375	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
38,115	89	Gravel roads, HSG C
662,765	72	Woods/grass comb., Good, HSG C
718,478	74	Weighted Average
700,880		97.55% Pervious Area
17,598		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Hydrograph



Proposed-R

Huff 0-10sm 1Q 1.00 hrs B-100yr 1hr Rainfall=2.72"

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Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Runoff = 22.28 cfs @ 0.37 hrs, Volume= 1.011 af, Depth= 0.74"

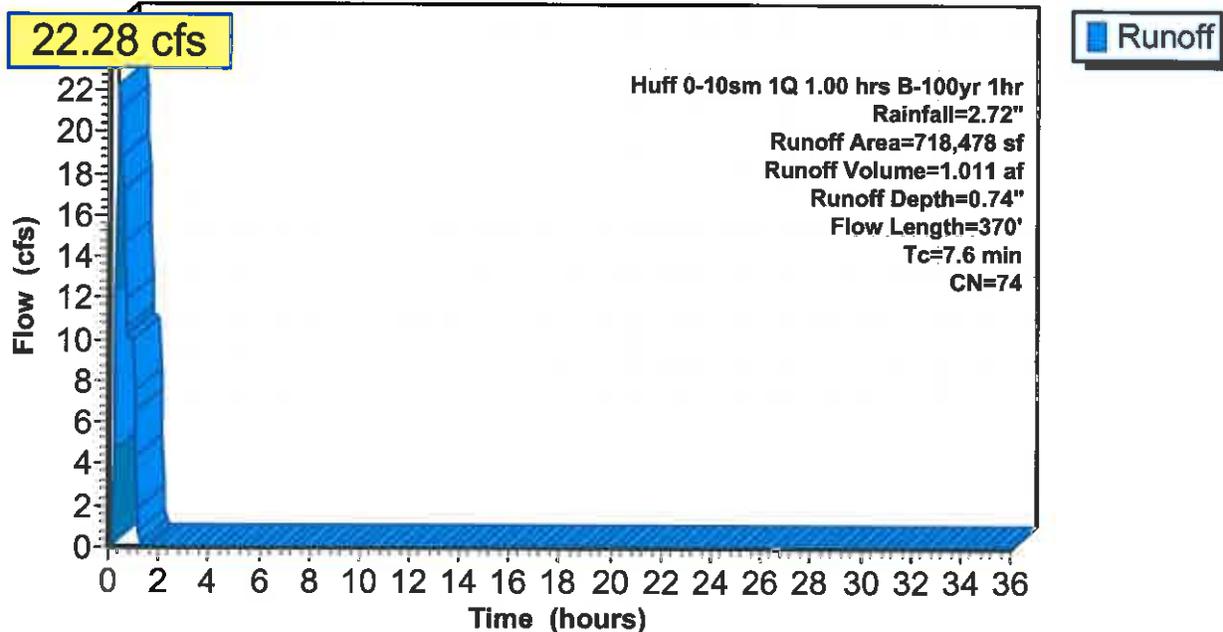
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff 0-10sm 1Q 1.00 hrs B-100yr 1hr Rainfall=2.72"

Area (sf)	CN	Description
14,375	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
38,115	89	Gravel roads, HSG C
662,765	72	Woods/grass comb., Good, HSG C
718,478	74	Weighted Average
700,880		97.55% Pervious Area
17,598		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow
					Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow
					Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Hydrograph



Proposed-R

Huff 0-10sm 1Q 3.00 hrs C-100yr 3hr Rainfall=3.60"

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Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Runoff = 15.06 cfs @ 0.83 hrs, Volume= 1.800 af, Depth= 1.31"

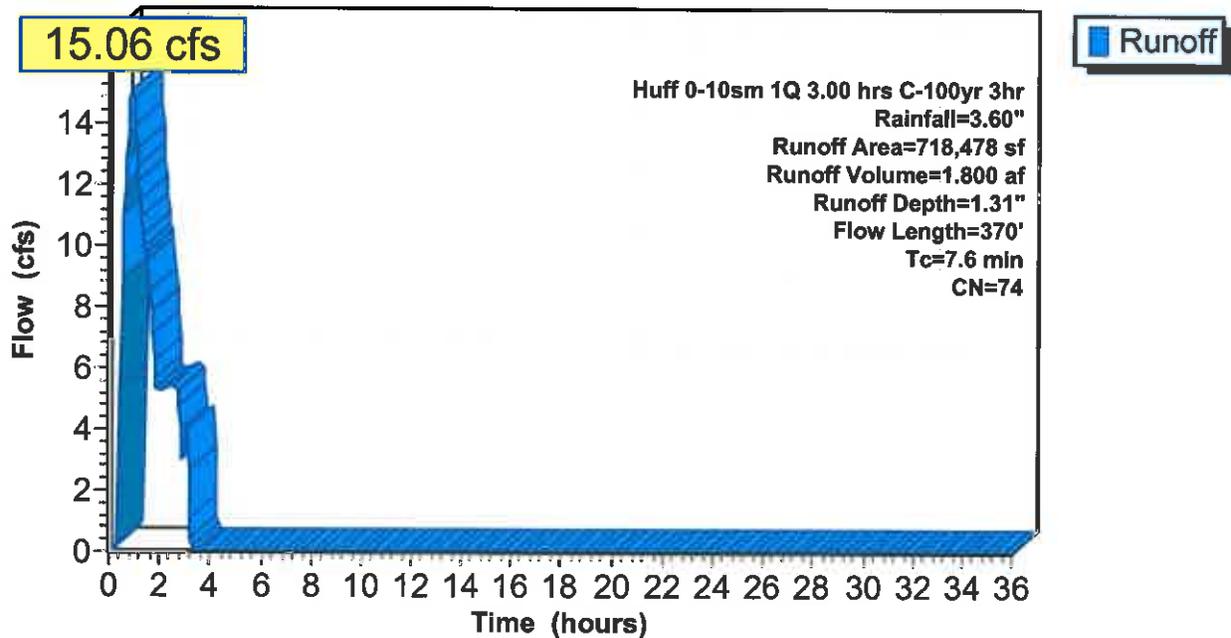
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff 0-10sm 1Q 3.00 hrs C-100yr 3hr Rainfall=3.60"

Area (sf)	CN	Description
14,375	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
38,115	89	Gravel roads, HSG C
662,765	72	Woods/grass comb., Good, HSG C
718,478	74	Weighted Average
700,880		97.55% Pervious Area
17,598		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow
4.4	270	0.0415	1.02		Cultivated: Residue<=20% n= 0.060 P2= 3.00" Shallow Concentrated Flow, Shallow Concentrated Flow
7.6	370	Total			Woodland Kv= 5.0 fps

Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Hydrograph



Proposed-R

Huff 0-10sm 1Q 6.00 hrs D-100yr 6hr Rainfall=4.32"

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Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Runoff = 10.71 cfs @ 1.53 hrs, Volume= 2.522 af, Depth= 1.83"

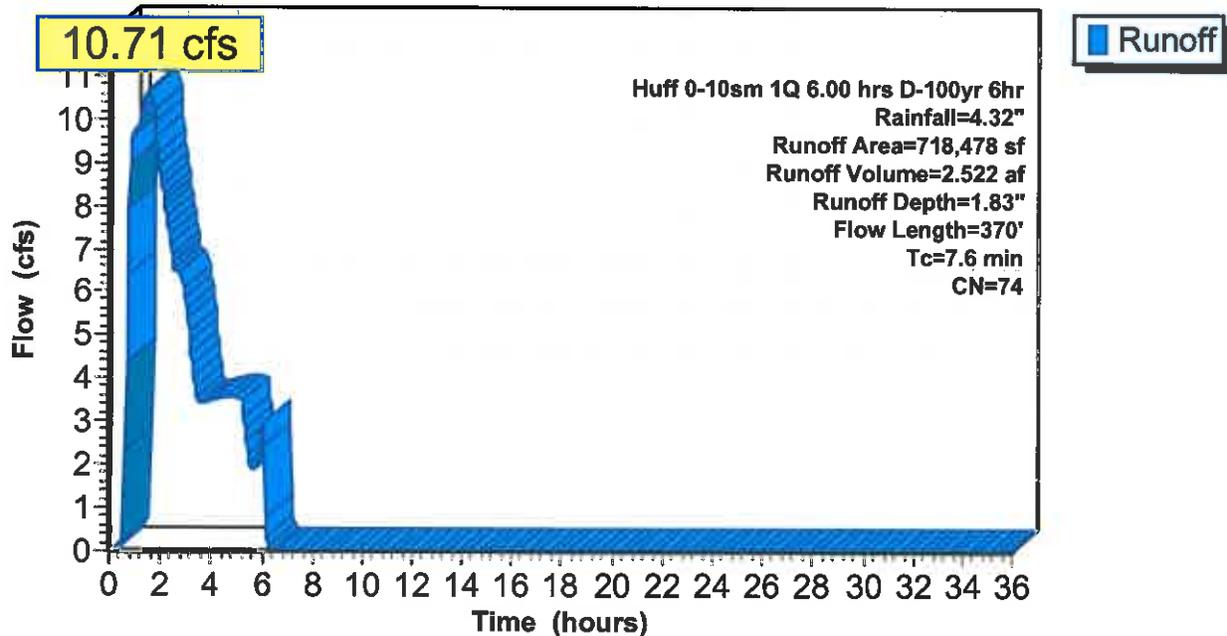
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Huff 0-10sm 1Q 6.00 hrs D-100yr 6hr Rainfall=4.32"

Area (sf)	CN	Description
14,375	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
38,115	89	Gravel roads, HSG C
662,765	72	Woods/grass comb., Good, HSG C
718,478	74	Weighted Average
700,880		97.55% Pervious Area
17,598		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow
4.4	270	0.0415	1.02		Cultivated: Residue<=20% n= 0.060 P2= 3.00" Shallow Concentrated Flow, Shallow Concentrated Flow
7.6	370	Total			Woodland Kv= 5.0 fps

Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Hydrograph



Proposed-R

Huff 0-10sm 2Q 12.00 hrs E-100yr 12hr Rainfall=5.04"

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Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Runoff = 9.56 cfs @ 5.47 hrs, Volume= 3.294 af, Depth= 2.40"

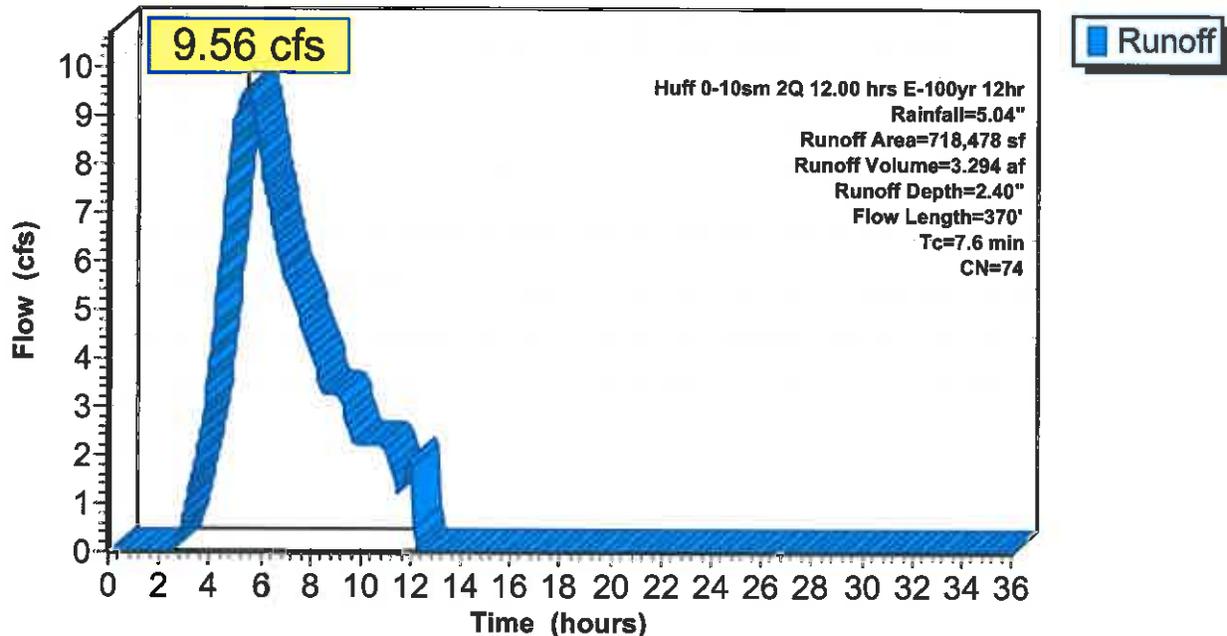
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff 0-10sm 2Q 12.00 hrs E-100yr 12hr Rainfall=5.04"

Area (sf)	CN	Description
14,375	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
38,115	89	Gravel roads, HSG C
662,765	72	Woods/grass comb., Good, HSG C
718,478	74	Weighted Average
700,880		97.55% Pervious Area
17,598		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow
					Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow
					Woodland Kv= 5.0 fps
7.6	370	Total			

Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Hydrograph



Proposed-R

Huff 0-10sm 3Q 24.00 hrs F-100yr 24hr Rainfall=5.83"

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Summary for Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Runoff = 7.56 cfs @ 15.70 hrs, Volume= 4.182 af, Depth= 3.04"

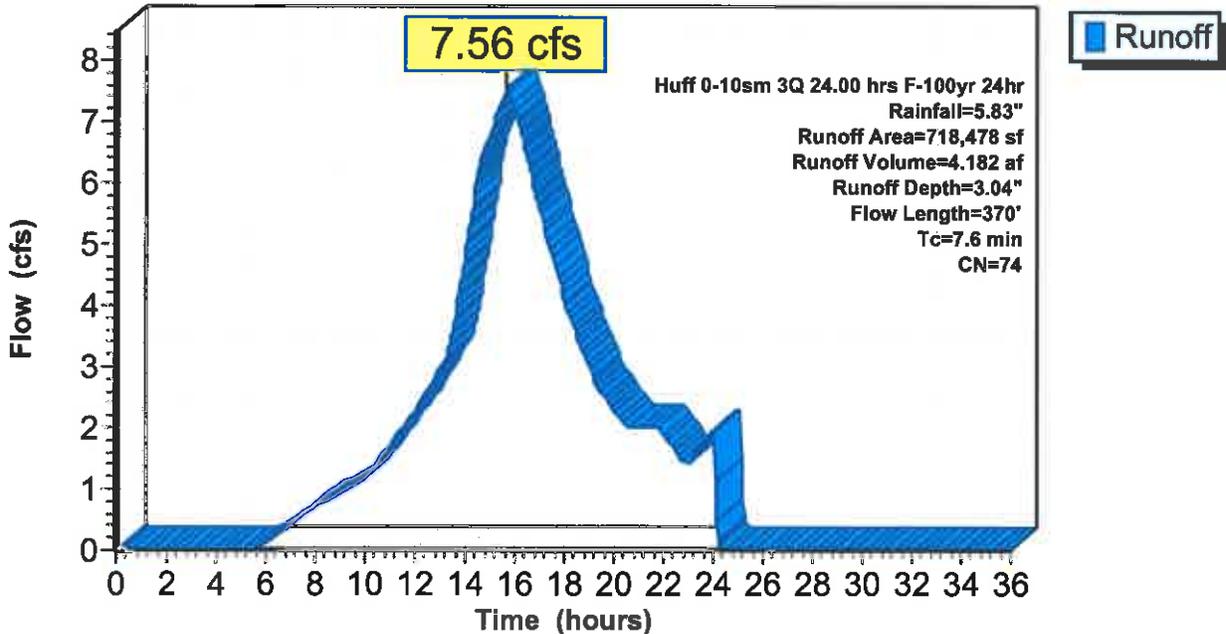
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Huff 0-10sm 3Q 24.00 hrs F-100yr 24hr Rainfall=5.83"

Area (sf)	CN	Description
14,375	98	Roofs, HSG C
3,223	98	Paved parking, HSG C
38,115	89	Gravel roads, HSG C
662,765	72	Woods/grass comb., Good, HSG C
718,478	74	Weighted Average
700,880		97.55% Pervious Area
17,598		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	100	0.0570	0.52		Sheet Flow, Sheet Flow Cultivated: Residue<=20% n= 0.060 P2= 3.00"
4.4	270	0.0415	1.02		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
7.6	370	Total			

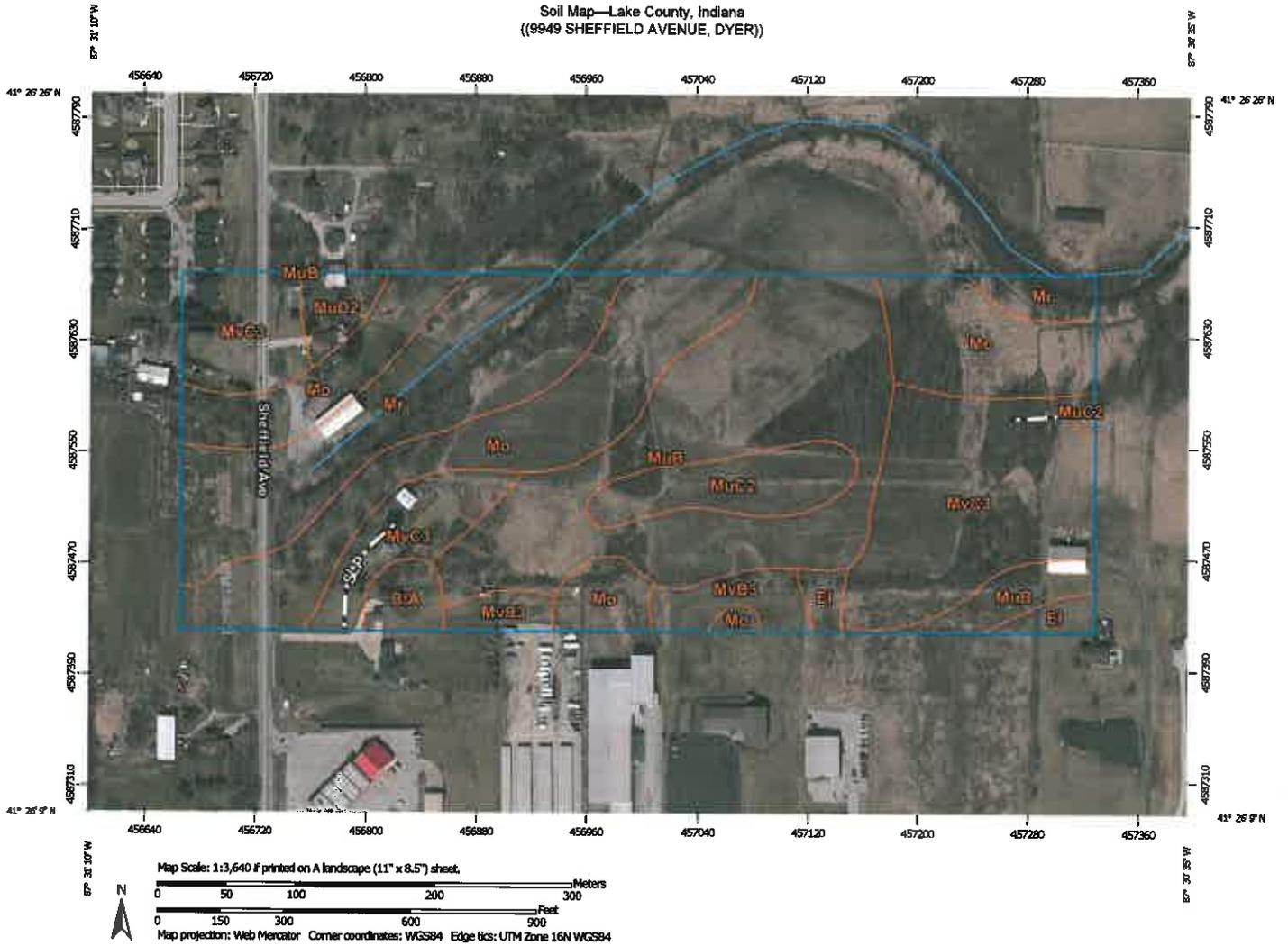
Subcatchment 16.50 ac: Windy Knoll Estates - Proposed

Hydrograph



HYDROLOGIC SOIL GROUPS

Soil Map—Lake County, Indiana
((9949 SHEFFIELD AVENUE, DYER))



Soil Map—Lake County, Indiana
 ((9949 SHEFFIELD AVENUE, DYER))

MAP LEGEND

- | | | |
|-------------------------------|--|---|
| Area of Interest (AOI) |  Area of Interest (AOI) |  Spoil Area |
| Soils |  Soil Map Unit Polygons |  Stony Spot |
| |  Soil Map Unit Lines |  Very Stony Spot |
| |  Soil Map Unit Points |  Wet Spot |
| Special Point Features |  Blowout |  Other |
| |  Borrow Pit |  Special Line Features |
| |  Clay Spot | Water Features |
| |  Closed Depression |  Streams and Canals |
| |  Gravel Pit | Transportation |
| |  Gravelly Spot |  Rails |
| |  Landfill |  Interstate Highways |
| |  Lava Flow |  US Routes |
| |  Marsh or swamp |  Major Roads |
| |  Mine or Quarry |  Local Roads |
| |  Miscellaneous Water | Background |
| |  Perennial Water |  Aerial Photography |
| |  Rock Outcrop | |
| |  Saline Spot | |
| |  Sandy Spot | |
| |  Severely Eroded Spot | |
| |  Sinkhole | |
| |  Slide or Slip | |
| |  Sodic Spot | |

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County, Indiana
 Survey Area Data: Version 16, Sep 9, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 13, 2012—Mar 26, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Lake County, Indiana (IN089)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BIA	Blount silt loam, Lake Michigan Lobe, 0 to 2 percent slopes	0.6	1.5%
EI	Elliott silt loam, 0 to 2 percent slopes	0.7	1.6%
Mo	Milford silt loam, overwash	11.1	26.2%
Mr	Milford silty clay loam, 0 to 2 percent slopes	6.6	15.7%
MuB	Morley silt loam, 2 to 6 percent slopes	10.0	23.7%
MuC2	Morley silt loam, 6 to 12 percent slopes, eroded	2.0	4.6%
MuD2	Morley silt loam, 12 to 18 percent slopes, eroded	0.7	1.6%
MvB3	Morley silty clay loam, 2 to 6 percent slopes, severely eroded	1.5	3.5%
MvC3	Morley silty clay loam, 6 to 12 percent slopes, severely eroded	9.2	21.7%
Totals for Area of Interest		42.3	100.0%



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX (847) 823-0520

October 26, 2015

Jim Nichols
9949 Sheffield Avenue
Dyer, Indiana 46311

Attention: Jim Nichols

Subject: Wetland Assessment of the 9949 Sheffield Avenue Project Study Area
Located in Dyer, Lake County, Indiana
(CBBEL Project No. 150549.00000)

Dear Mr. Nichols:

On October 21, 2015, Christopher B. Burke Engineering, Ltd. (CBBEL) completed a wetland assessment of the study area in Dyer, Indiana. Applying the methodology described within the U.S. Army Corps of Engineers (USACE) Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010), two wetland areas and one waters of the U.S. were identified, flagged and located with a hand-held GPS unit at the time of the site investigation. An aerial photograph illustrating the delineation of these areas is included as Exhibit 6. We understand that the flagged wetlands and waters of the U.S. boundaries will be field surveyed by your crews. Once the survey is completed, CBBEL staff will review the survey for accuracy.

The USACE regulates the discharge of dredged or fill material into jurisdictional Waters of the U.S. and wetland areas under Section 404 of the Clean Water Act. In our opinion, Wetland 1 is hydrologically connected to a waters of the U.S. known as Bull Run, which exists outside the study area to the north. Therefore, Wetland 1 will likely be considered a waters of the U.S. and will likely be subject to federal regulation. Wetland 2, however, appears to be isolated from Wetland 1 and does not have an observable connection to the floodplain of Bull Run. Our opinion is based on a review of available mapping resources, recent aerial photography, and observations gathered from our field investigation. As part of the USACE permit application, we recommend submitting a request to the USACE for a written jurisdictional determination to confirm our opinion.

The attached report describes the identified wetlands and waters of the U.S. and presents the methodology and reference material used to assist in the assessment. USACE data forms are also included. This assessment is based on field conditions at the time of the CBBEL site visit and our understanding of current federal, state and local regulations. An evaluation of historic site conditions was not performed.

Please contact our office should you have any additional questions or if we can be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Travis Kessler". The signature is written in black ink and is positioned above a horizontal line that spans the width of the page.

Travis Kessler, PWS
Senior Environmental Resources Specialist

WETLAND/WATERS OF THE U.S. ASSESSMENT REPORT
JIM NICHOLS - 9949 SHEFFIELD AVENUE
DYER, LAKE COUNTY, INDIANA
CBBEL Project No. 150549.00000

WETLAND DELINEATION

On October 21, 2015, Christopher B. Burke Engineering, Ltd. (CBBEL) completed a wetland/waters of the U.S. assessment of the study area, located to the east of Sheffield Avenue in Dyer, Lake County, Indiana, (Exhibit 1) to determine the presence and extent of wetlands and waters of the U.S. within the study area. This wetland/waters of the U.S. assessment report documents our findings. Two wetlands and one waters of the U.S. were identified and flagged according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010). The approximate location of the flagged boundaries is shown on Exhibit 6. Representative site photographs are included on Exhibit 7. The Midwest Region Wetland Determination Data Forms, required by USACE, are also included.

METHODOLOGY

The Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010), identifies technical criteria required for wetland identification. The three essential characteristics of a jurisdictional wetland are hydrophytic vegetation, hydric soils and wetland hydrology as described below:

Hydrophytic Vegetation: The hydrophytic vegetation criterion is based on a separation of plants into five basic groups:

- (1) Obligate wetland plants (OBL) almost always occur (estimated probability >99%) in wetlands under natural conditions;
- (2) Facultative wetland plants (FACW) usually occur in wetlands (estimated probability 67-99%), but occasionally are found in non-wetlands;
- (3) Facultative plants (FAC) are equally likely to occur in wetlands or non-wetlands (estimated probability 34-66%);
- (4) Facultative upland plants (FACU) usually occur in non-wetlands (estimated probability 67-99%), but occasionally are found in wetlands; and
- (5) Obligate upland plants (UPL) almost always occur (estimated probability >99%) in non-wetlands under natural conditions.

Four procedures completed in the following order are used to determine if hydrophytic vegetation is present:

- 1) **Rapid Test**: The Rapid Test for hydrophytic vegetation is met if all dominant species across all strata are OBL or FACW, or a combination of the two based on a visual assessment.
- 2) **Dominance Test**: Using the 50/20 Rule, if greater than 50% of the plants present are FAC, FACW, or OBL, the subject area meets the hydrophytic vegetation criterion.
- 3) **Prevalence Index**: Each plant species in a sampling plot is assigned a numeric value (OBL=1; FACW=2; FAC=3; FACU=4; UPL=5). Based on the sampling data, the absolute cover is calculated for each species in each stratum and using the specified formula, if the Prevalence Index is 3 or less, hydrophytic vegetation is present.
- 4) **Morphological Adaptations**: Various species may develop physical characteristics after growing in wetland areas such as multi-stemmed trunks, shallow roots and buttressed stems. Hydrophytic vegetation is present if an adaptation is observed in more than 50% of FACU species growing in an area that contains hydric soil and wetland hydrology.

Hydric Soils: Hydric soils are defined in the manual as "soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part." Field indicators of hydric soil are found in the NTCHS Field Indicators of Hydric Soils in the United States (USDA Natural Resources Conservation Service 2006b or current version).

Wetland Hydrology: The wetland hydrology criterion is often the most difficult to determine. Typically, the presence of water for a portion of the growing season creates anaerobic conditions. Anaerobic conditions lead to the prevalence of wetland plants. Morphological adaptations of plants, driftlines and watermarks are examples of wetland hydrology field indicators.

RESULTS AND DISCUSSION

STUDY AREA

The study area consists of a +/- 16 acre area located to the north of 101st Avenue, south of 98th Avenue, east of Sheffield Avenue, and west of private land in Dyer, Indiana. The study area consisted of a single family residence, upland, two wetlands, and one waters of the U.S. named Bull Run. The following is a brief description of the identified wetland and waters of the U.S. with a list of the dominant plant species observed and their corresponding wetland indicator categories. A coefficient of conservatism (C-value) is also included for each plant species. C-values were established by Swink and Wilhelm (1999) to quantify a wetland's native attribute for comparative purposes.

Each plant species is rated on a scale of 0 to 10, 0-representing non-native or noxious species commonly found in a variety of habitats, and 10 representing plants found only under specific ecological conditions. The C-values of plants found in wetland areas can

give some insight as to the overall quality or value of the wetland. Wetlands containing an abundance of plants with a low C-value suggest that these wetlands have been disturbed in the past. Wetlands containing an abundance of plants with a high C-value suggest that specific ecological conditions necessary for their survival are intact thus disturbance is probably minimal and the wetland maintains at least some of its original integrity.

Waters of the U.S. are defined as the ordinary high water mark in non-tidal waters, provided the jurisdiction is not extended by the presence of wetlands. The term "ordinary high water mark" (OHWM) refers to the line established by the fluctuations of water. These fluctuations can be indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris.

IDENTIFIED WETLAND AND WATERS OF THE U.S. AREAS

The following is a brief description of the identified wetlands and waters of the U.S. with a list of the dominant plant species observed in each wetland.

Wetland 1

Wetland 1, characterized at data point 1A, is an emergent wetland located in the east portion of the study area within the floodplain of Bull Run, a waters of the U.S. Dominant vegetation identified within the wetland area consists of reed canarygrass (*Phalaris arundinacea*), wool grass (*Scirpus cyperinus*), and prairie cinquefoil (*Potentilla arguta*). Positive wetland hydrology was indicated by the presence of saturated soils and drainage patterns within the wetland. Soils within the wetland were mapped as Morley silt loam, eroded. Morley silt loam is classified as a non-hydric soil. The observed soil profile within the wetland exhibited a low chroma matrix and the presence of redoximorphic concentrations which is indicative of hydric soils.

The following plant list was collected within the wetland area:

FLORISTIC QUALITY DATA		Native	14	82.4%	Adventive	3	17.6%
14	NATIVE SPECIES	Tree	2	11.8%	Tree	0	0.0%
17	Total Species	Shrub	2	11.8%	Shrub	0	0.0%
3.2	NATIVE MEAN C	W-Vine	0	0.0%	W-Vine	0	0.0%
2.6	W/Adventives	H-Vine	0	0.0%	H-Vine	0	0.0%
12.0	NATIVE FQI	P-Forb	7	41.2%	P-Forb	1	5.9%
10.9	W/Adventives	B-Forb	0	0.0%	B-Forb	0	0.0%
-2.1	NATIVE MEAN W	A-Forb	1	5.9%	A-Forb	0	0.0%
-2.2	W/Adventives	P-Grass	1	5.9%	P-Grass	2	11.8%
AVG: Fac. Wetland (-)		A-Grass	0	0.0%	A-Grass	0	0.0%
		P-Sedge	1	5.9%	P-Sedge	0	0.0%
		A-Sedge	0	0.0%	A-Sedge	0	0.0%
		Cryptogam	0	0.0%			

ACRONYM	C SCIENTIFIC NAME	W WETNESS	PHYSIOGNOMY	COMMON NAME
ASCINC	4 <i>Asclepias incarnata</i>	-5 OBL	Nt P-Forb	SWAMP MILKWEED
ASTSIS	3 <i>Aster simplex</i>	-5 OBL	Nt P-Forb	PANICLED ASTER
CORRAC	1 <i>Cornus racemosa</i>	-2 FACW-	Nt Shrub	GRAY DOGWOOD
JUNTOR	4 <i>Juncus torreyi</i>	-3 FACW	Nt P-Forb	TORREY'S RUSH
LYTSAL	0 <i>LYTHRUM SALICARIA</i>	-5 OBL	Ad P-Forb	PURPLE LOOSESTRIFE
PHARARU	0 <i>PHALARIS ARUNDINACEA</i>	-4 FACW+	Ad P-Grass	REED CANARY GRASS
POAPRA	0 <i>POA PRATENSIS</i>	1 FAC-	Ad P-Grass	KENTUCKY BLUE GRASS
POLPEN	0 <i>Polygonum pensylvanicum</i>	-4 FACW+	Nt A-Forb	PINKWEED
POPDEL	2 <i>Populus deltoides</i>	-1 FAC+	Nt Tree	EASTERN COTTONWOOD
POTARU	9 <i>Potentilla arguta</i>	4 FACU-	Nt P-Forb	PRAIRIE CINQUEFOIL
RUBOCC	2 <i>Rubus occidentalis</i>	5 UPL	Nt Shrub	BLACK RASPBERRY
SALNIG	4 <i>Salix nigra</i>	-5 OBL	Nt Tree	BLACK WILLOW

SCICYP	6	Scirpus cyperinus	-5	OBL	Nt	P-Sedge	WOOL GRASS
SOLALT	1	Solidago altissima	3	FACU	Nt	P-Forb	TALL GOLDENROD
SOLGRG	4	Solidago graminifolia	-2	FACW-	Nt	P-Forb	COMMON GRASS-LEAVED GOLDENROD
SPAPEC	4	Spartina pectinata	-4	FACW+	Nt	P-Grass	PRAIRIE CORD GRASS
TYPLAT	1	Typha latifolia	-5	OBL	Nt	P-Forb	BROAD-LEAVED CATTAIL

Wetland 2

Wetland 2, characterized at data point 2A, is located to the west of Wetland 1 in the east portion of the study area. Dominant vegetation identified within the wetland area consists of narrow-leaved cattail (*Typha angustifolia*) and reed canarygrass. Positive wetland hydrology was indicated by saturated soils and drainage patterns within the wetland. Soils within the wetland were mapped as Morley silty clay loam, severely eroded. Morley silty clay loam is classified as a non-hydric soil. The observed soil profile within the wetland exhibited a low chroma matrix and the presence of redoximorphic concentrations which is indicative of hydric soils.

The following plant list was collected within the wetland area:

FLORISTIC QUALITY DATA		Native	9	75.0%	Adventive	3	25.0%
9	NATIVE SPECIES	Tree	0	0.0%	Tree	0	0.0%
12	Total Species	Shrub	1	8.3%	Shrub	0	0.0%
3.1	NATIVE MEAN C	W-Vine	0	0.0%	W-Vine	0	0.0%
2.3	W/Adventives	H-Vine	0	0.0%	H-Vine	0	0.0%
9.3	NATIVE FOI	P-Forb	7	58.3%	P-Forb	1	8.3%
8.1	W/Adventives	B-Forb	0	0.0%	B-Forb	0	0.0%
-1.7	NATIVE MEAN W	A-Forb	0	0.0%	A-Forb	0	0.0%
-1.4	W/Adventives	P-Grass	0	0.0%	P-Grass	2	16.7%
AVG:	Pac. Wetland (-)	A-Grass	0	0.0%	A-Grass	0	0.0%
		P-Sedge	1	8.3%	P-Sedge	0	0.0%
		A-Sedge	0	0.0%	A-Sedge	0	0.0%
		Cryptogam	0	0.0%			

ACRONYM	C	SCIENTIFIC NAME	W	WEINISS	PHYSIOGNOMY	COMMON NAME	
ASTSIS	3	Aster simplex	-5	OBL	Nt	P-Forb	PANICLED ASTER
EPICOL	3	Epilobium coloratum	-5	OBL	Nt	P-Forb	CINNAMON WILLOW HERB
PESELA	0	FESTUCA ELATIOR	2	FACU+	Ad	P-Grass	TALL FESCUE
JUNDUD	4	Juncus dudleyi	0	[FAC]	Nt	P-Forb	DUDLEY'S RUSH
LYTSAL	0	LYTHRUM SALICARIA	-5	OBL	Ad	P-Forb	PURPLE LOOSESTRIFE
POAPRA	0	POA PRATENSIS	1	FAC-	Ad	P-Grass	KENTUCKY BLUE GRASS
POTARU	9	Potentilla arguta	4	FACU-	Nt	P-Forb	PRAIRIE CINQUEFOIL
PRUVLA	0	Prunella vulgaris lanceolata	3	[FACU]	Nt	P-Forb	SELF HEAL
SALINT	1	Salix interior	-5	OBL	Nt	Shrub	SANDBAR WILLOW
SCICYP	6	Scirpus cyperinus	-5	OBL	Nt	P-Sedge	WOOL GRASS
SOLALT	1	Solidago altissima	3	FACU	Nt	P-Forb	TALL GOLDENROD
TYPANG	1	Typha angustifolia	-5	OBL	Nt	P-Forb	NARROW-LEAVED CATTAIL

Drainageway (Bull Run)

Bull Run, a waters of the U.S., characterized at data point 3A, consists of an approximate 10-foot wide mostly unvegetated channel and crosses the western portion of the study area in a northeast direction. Portions of the channel were vegetated with reed canarygrass, rice cutgrass (*Leersia oryzoides*), water pepper (*Persicaria hydropiper*), bittersweet nightshade (*Solanum dulcamara*), and river bulrush (*Schoenoplectus fluviatilis*). Dominant vegetation along the banks of the channel consisted of silver maple (*Acer saccharinum*), tartarian honeysuckle (*Lonicera tatarica*), and pale dogwood (*Cornus obliqua*). The ordinary high water mark was determined by a defined scour line, deeply incised banks, and exposed roots. The channel exhibited a silty muck substrate and did not contain flowing water during the field investigation.

REFERENCE MATERIALS

The following reference materials were reviewed and used to assist in the field assessment. They are included as Exhibits 1-5.

LOCATION

The study area consists of approximate 16 acre area located to the north of 101st Avenue, south of 98th Avenue, east of Sheffield Avenue, and west of private land in Dyer, Indiana, as shown on Exhibit 1. Geographically, the study area is located in Section 36, Township 35 North, Range 10, West of the Second Principal Meridian. The study area is centered at approximately Latitude 41.438761, Longitude -87.514485 (NAD83 Datum).

NATIONAL WETLAND INVENTORY

The National Wetland Inventory map (NWI) for the Dyer Quadrangle (1983), as shown on Exhibit 2, indicates that wetland is mapped within the study area. The NWI serves only as a large-scale guide and actual wetland locations and types often vary from that mapped. The following wetland type is mapped within the study area:

PEM1Cd - Palustrine, Emergent, Persistent, Seasonally Flooded, Partially Drained/Ditched

SOIL SURVEY

The Soil Survey of Lake County, Indiana (2001), as shown on Exhibit 3, was reviewed to determine the location of hydric soils within the study area. Mapped hydric soil can be indicative of wetland conditions. The following soils are mapped within the study area:

Mo	-	Milford silt loam, overwash	-	hydric
Mr	-	Milford silty clay loam	-	hydric
MuB	-	Morley silt loam		
MuC2/D2	-	Morely silt loam, eroded		
MvC3	-	Morley silt loam, severely eroded		

USGS TOPOGRAPHIC SURVEY

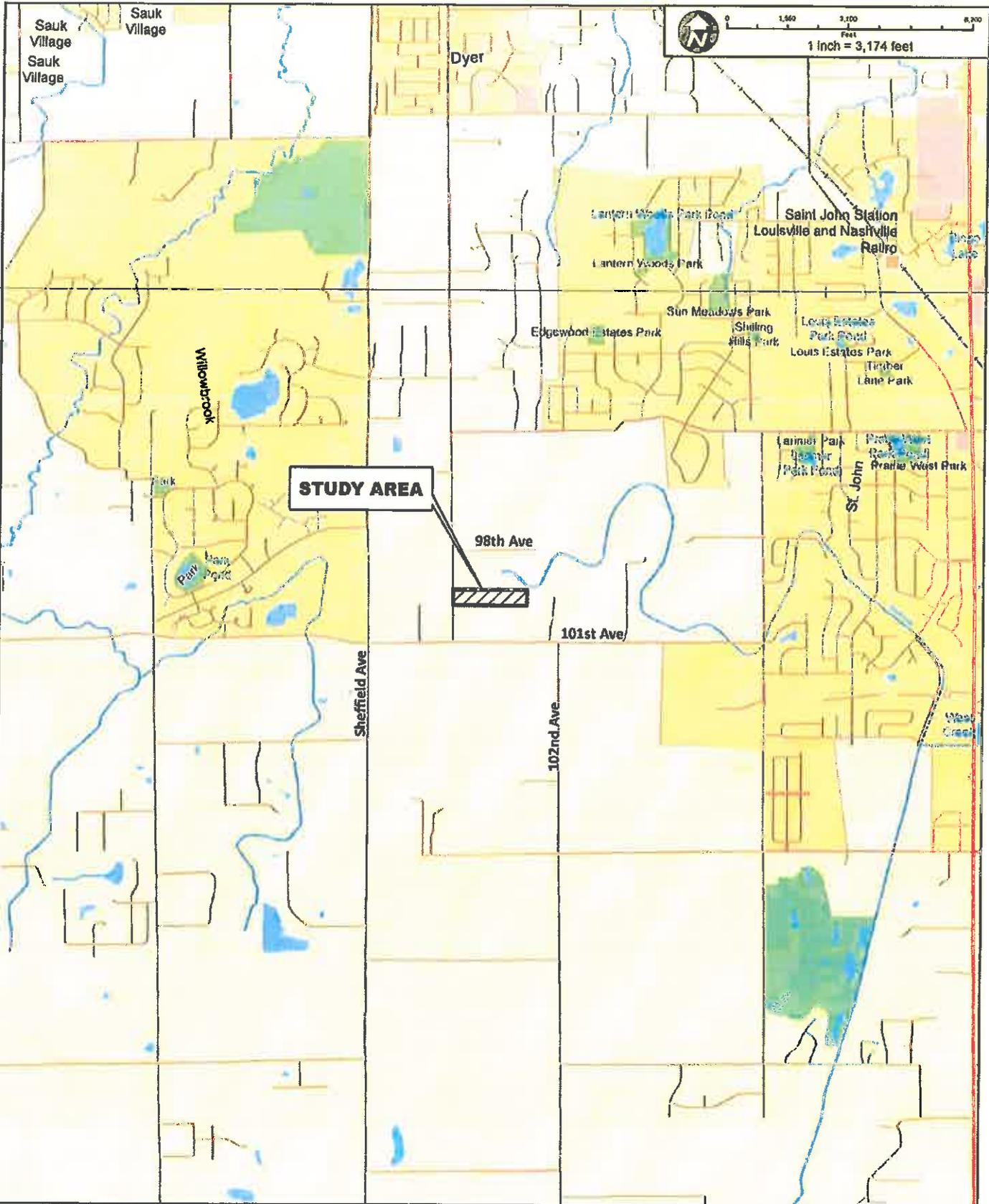
The USGS Topographic survey for the Dyer Quadrangle (1993), as shown on Exhibit 4, was reviewed to determine local watershed and possible drainage patterns. The results of the field investigation indicate that runoff within the study area drains north into Bull Run, a waters of the U.S.

FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map (FIRM) for Lake County, Indiana and Incorporated Areas, Map Panel Number 18089C0210 E and 18089C0220 E, effective January 18, 2012 was reviewed to determine the location of regulatory floodplain within the property

(Exhibit 5). Mapped floodplain can be indicative of wetland hydrology. The FIRM map indicates the study area is not located within mapped 100-year regulatory floodplain.

TDK
N:\INDIANA\150540\Env\Docs\wetland delineation_102815.doc



CLIENT:
JIM NICHOLS

TITLE:
LOCATION MAP

CBBEL # 15-0549
 DATE: 10/6/15

CB **CHRISTOPHER B. BURKE ENGINEERING, LTD.**
 9575 W. Higgins Road, Suite 600 • Rosemont, Illinois 60018 • (847) 823-0500

DWN.		SCALE:	1" = 3,174'
CHKD		PLOT DATE:	10/26/2015
FILE NAME:	150549.LOC		

EXH 1

P:\JIM NICHOLS\15150549\150549.LOC.mxd

NOTE: TAKEN FROM THE NATIONAL WETLAND INVENTORY (NWI), DYER QUADRANGLE (1983)



0 200 400 600
feet
1 inch = 400 feet

LEGEND
PEM1Cd - PALUSTRINE, EMERGENT, PERSISTENT, SEASONALLY FLOODED, PARTIALLY DRAINED/DITCHED



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

CLIENT:
JIM NICHOLS

TITLE:
NATIONAL WETLAND INVENTORY

CBBEL # 16-0549
DATE: 10/8/15

CBB CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 • Rosemont, Illinois 60018 • (847) 823-0500

DRAWN	SCALE:	1" = 400'
CHKD:	PLOT DATE:	10/28/2015
FILE NAME:	150549_NWI	

EXH 2

P:\JIM NICHOLS\1510549\150549_NWI.mxd

NOTE: TAKEN FROM THE SOIL SURVEY OF LAKE COUNTY, INDIANA (2001)

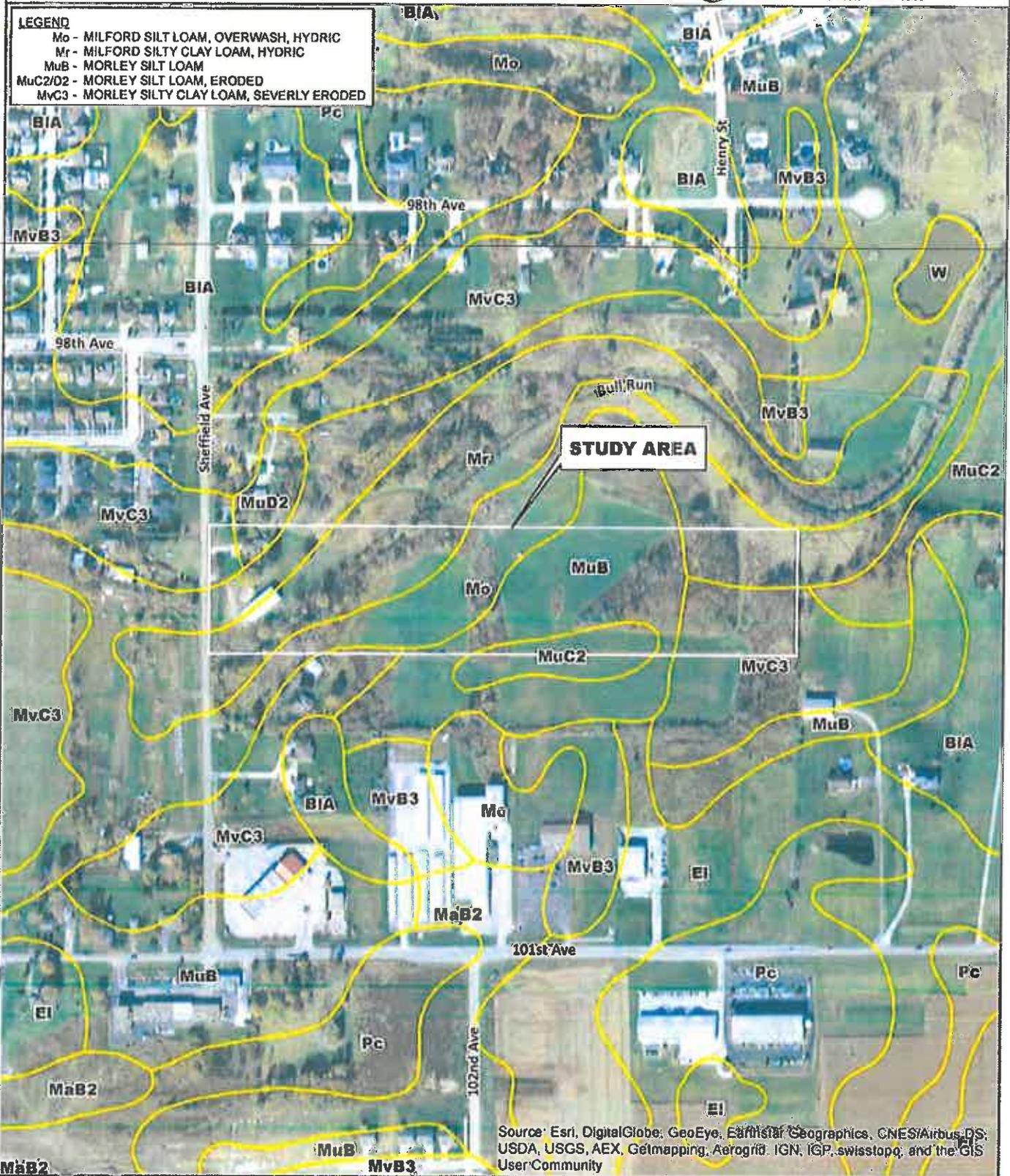


0 200 400 600

1 inch = 400 feet

LEGEND

- Mo - MILFORD SILT LOAM, OVERWASH, HYDRIC
- Mr - MILFORD SILTY CLAY LOAM, HYDRIC
- MuB - MORLEY SILT LOAM
- MuC2/O2 - MORLEY SILT LOAM, ERODED
- MvC3 - MORLEY SILTY CLAY LOAM, SEVERLY ERODED



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

JIM NICHOLS\150549\SOILS.mxd

CLIENT:

JIM NICHOLS

TITLE:

SOIL SURVEY

CBBEL # 15-0549
DATE: 10/8/15

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (647) 823-0500

DWN.		SCALE:	1" = 400'
CHKD.		PLOT DATE:	10/28/2015
FILE NAME:	150549_SOILS		

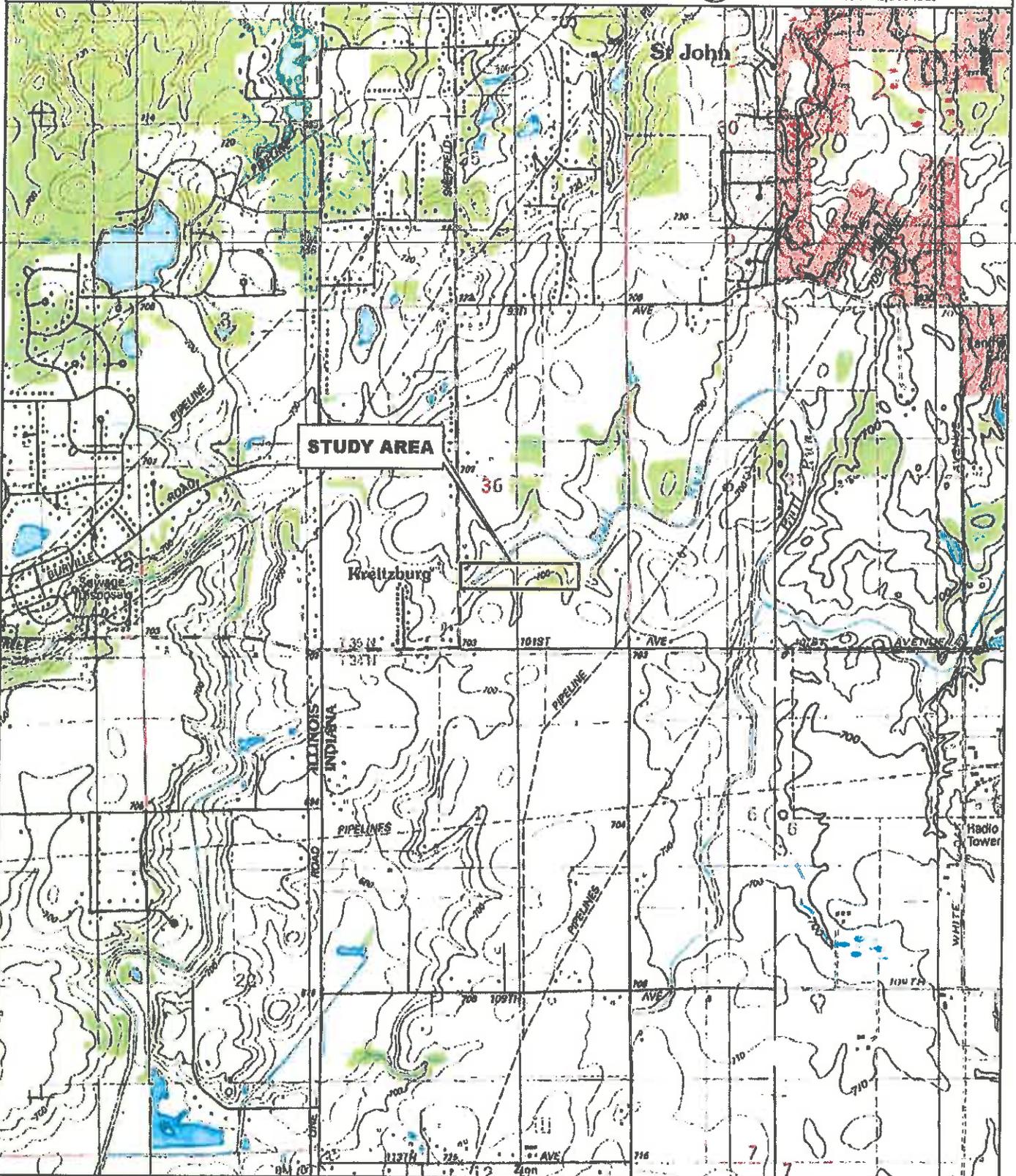
EXH 3

NOTE: TAKEN FROM THE UNITED STATES GEOLOGICAL SURVEY(USGS), DYER QUADRANGLE(1993)



1,000 2,000 4,000
Feet

1 inch = 2,000 feet



CLIENT: **JIM NICHOLS**

TITLE: **UNITED STATES GEOLOGICAL SURVEY**

CBBEL # 15-0549
DATE 10/6/15

CB CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DWN.	SCALE:	1" = 2,000'
CHKD.	PLOT DATE:	10/28/2015
FILE NAME:	150549_USGS	

EXH 4

P:\JIM_NICHOLS\150549\150549_USGS.mxd

NOTE: TAKEN FROM THE FLOOD INSURANCE RATE MAP (FIRM), LAKE COUNTY AND INCORPORATED AREAS, INDIANA, MAP NUMBERS 18089C0210E AND 16089C0220E, EFFECTIVE DATE: JANUARY 18, 2012



0 200 400 600
Feet

1 inch = 400 feet



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

CLIENT:
JIM NICHOLS

TITLE:
FLOOD INSURANCE RATE MAP

CBBEL # 15-0540
DATE: 10/6/16

CB CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 • Rosemont, Illinois 60018 • (847) 823-0500

DWN		SCALE:	1" = 400'
CHKD		PLOT DATE:	10/26/2015
FILE NAME:	150549_FIRM		

EXH 5

PAUL NICHOLS 151054901150549_FIRM.mxd

NOTE: AERIAL PHOTOGRAPHY TAKEN 2012, 2016



Legend
 WATERS OF THE U.S.
 WETLAND



CHRISTOPHER B. BURKE ENGINEER
 9576 West Niagara Road, Suite 900
 Rossmore, KY 40154
 (502) 827-0200

JIM NICHOLS

NO.	DATE	DESCRIPTION	BY	CHECKED BY
1	10/15/16	WETLAND DELINEATION	JN	CB
2	10/15/16	WETLAND DELINEATION	JN	CB
3	10/15/16	WETLAND DELINEATION	JN	CB
4	10/15/16	WETLAND DELINEATION	JN	CB
5	10/15/16	WETLAND DELINEATION	JN	CB
6	10/15/16	WETLAND DELINEATION	JN	CB
7	10/15/16	WETLAND DELINEATION	JN	CB
8	10/15/16	WETLAND DELINEATION	JN	CB
9	10/15/16	WETLAND DELINEATION	JN	CB
10	10/15/16	WETLAND DELINEATION	JN	CB

APPROXIMATE WETLAND DELINEATION

EXH 6



Wetland 1 – Facing north from north portion of wetland



Wetland 1 – Facing east from south portion of wetland



Wetland 2 – Facing northwest



Waters of the U.S. (Bull Run) – Facing southwest



Christopher B. Burke Engineering, Ltd.
 9575 W. Higgins Road, Suite 600
 Rosemont, Illinois 60018
 847-823-0500

CLIENT: Jim Nichols	PROJECT NO.: 150549.00000	10/21/16
9949 Sheffield Avenue, Dyer, Lake County, IL		EXHIBIT: 7

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 9949 Sheffield Avenue City/County: Dyer Lake _____ Sampling Date: 10/21/2015
 Applicant/Owner: Jim Nichols State: Indiana Sampling Point: 1A
 Investigator(s): T. Kessler and T. Kehoe Section, Township, Range: Section 36, T35N, R10W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 41.438761° Long: -87.514485° Datum: NAD83
 Soil Map Unit Name: Milford silt loam, eroded NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>15</u> x 1 = <u>15</u>
3. _____	_____	_____	_____	FACW species <u>75</u> x 2 = <u>150</u>
4. _____	_____	_____	_____	FAC species <u>10</u> x 3 = <u>30</u>
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
50%: _____ 20%: _____	<u>0</u>	= Total Cover		UPL species _____ x 5 = _____
				Column Totals: <u>100</u> (A) <u>195</u> (B)
				Prevalence Index = B/A = <u>1.95</u>
Herb Stratum (Plot size: <u>5 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Phalaris arundinacea</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Potentilla arguta</u>	<u>35</u>	<u>Yes</u>	<u>FACW</u>	<input checked="" type="checkbox"/> 2 - Dominance Test Is >50%
3. <u>Scirpus cyperinus</u>	<u>15</u>	<u>No</u>	<u>OBL</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is $\geq 3.0^1$
4. <u>Poa pratensis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>100</u>	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>0</u>	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.) _____ _____				

SOIL.

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/1	85	10YR 4/6	15	C	M	silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C6)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C8)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B6)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 4

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 9949 Sheffield Avenue City/County: Dyer Lake _____ Sampling Date: 10/21/2015
 Applicant/Owner: Jim Nichols State: Indiana Sampling Point: 1B
 Investigator(s): T. Kessler and T. Kehoe Section, Township, Range: Section 36, T35N, R10W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex
 Slope (%): 1 Lat: 41.438761° Long: -87.514485° Datum: NAD83
 Soil Map Unit Name: Milford silt loam, eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		Yes _____ No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		Yes _____ No <input checked="" type="checkbox"/>
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
4. _____	_____	_____	_____	FAC species <u>30</u> x 3 = <u>90</u>
5. _____	_____	_____	_____	FACU species <u>60</u> x 4 = <u>240</u>
50%: _____ 20%: _____	<u>0</u>	= Total Cover		UPL species _____ x 5 = _____
				Column Totals: <u>100</u> (A) <u>350</u> (B)
				Prevalence Index = B/A = <u>3.50</u>
Herb Stratum (Plot size: <u>5 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Solidago altissima</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Poa pratensis</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Festuca eliator</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	<input type="checkbox"/> 3 - Prevalence Index is $\geq 3.0^1$
4. <u>Potentilla arguta</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>100</u>	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>0</u>	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 3/3	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

- | | | |
|---|--|---|
| Hydric Soil Indicators:
<input type="checkbox"/> Histosol (A1)
<input type="checkbox"/> Histic Epipedon (A2)
<input type="checkbox"/> Black Histic (A3)
<input type="checkbox"/> Hydrogen Sulfide (A4)
<input type="checkbox"/> Stratified Layers (A5)
<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Depleted Below Dark Surface (A11)
<input type="checkbox"/> Thick Dark Surface (A12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)
<input type="checkbox"/> 5 cm Mucky Peat or Peal (S3) | <input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Redox Depressions (F8) | Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|---|

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

- Wetland Hydrology Indicators:**
- | | | |
|--|---|---|
| Primary Indicators (minimum of one is required; check all that apply)
<input type="checkbox"/> Surface Water (A1)
<input type="checkbox"/> High Water Table (A2)
<input type="checkbox"/> Saturation (A3)
<input type="checkbox"/> Water Marks (B1)
<input type="checkbox"/> Sediment Deposits (B2)
<input type="checkbox"/> Drift Deposits (B3)
<input type="checkbox"/> Algal Mat or Crust (B4)
<input type="checkbox"/> Iron Deposits (B5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Gauge or Well Data (D0)
<input type="checkbox"/> Other (Explain in Remarks) | Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> FAC-Neutral Test (D5) |
|--|---|---|

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> (Includes capillary fringe)	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 9949 Sheffield Avenue City/County: Dyer Lake Lake Sampling Date: 10/21/2015
 Applicant/Owner: Jim Nichols State: Indiana Sampling Point: 2A
 Investigator(s): T. Kessler and T. Kehoe Section, Township, Range: Section 36, T35N, R10W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 41.438761° Long: -87.514485° Datum: NAD83
 Soil Map Unit Name: Milford silty clay loam, severely eroded NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
4. _____				
5. _____				
50%: _____ 20%: _____	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Salix interior</u>	<u>10</u>	Yes	OBL	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species <u>30</u> x 1 = <u>30</u>
3. _____				FACW species <u>30</u> x 2 = <u>60</u>
4. _____				FAC species <u>10</u> x 3 = <u>30</u>
5. _____				FACU species <u>30</u> x 4 = <u>120</u>
50%: _____ 20%: _____	<u>10</u>	= Total Cover		
Herb Stratum (Plot size: <u>5 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	UPL species _____ x 5 = _____
1. <u>Phalaris arundinacea</u>	<u>30</u>	Yes	FACW	Column Totals: <u>100</u> (A) <u>240</u> (B)
2. <u>Typha angustifolia</u>	<u>30</u>	Yes	OBL	Prevalence Index = B/A = <u>2.40</u>
3. <u>Festuca ellator</u>	<u>20</u>	Yes	FACU	
4. <u>Juncus dudleyi</u>	<u>10</u>	No	FAC	
5. <u>Solidago altissima</u>	<u>10</u>	No	FACU	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
50%: _____ 20%: _____	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
50%: _____ 20%: _____	<u>0</u>	= Total Cover		
				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/1	90	10YR 4/6	10	C	M	silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 5 cm Mucky Peat or Peal (S3)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C6)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B6)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>6</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 9949 Sheffield Avenue City/County: Dyer Lake _____ Sampling Date: 10/21/2015
 Applicant/Owner: Jim Nichols State: Indiana Sampling Point: 2B
 Investigator(s): T. Kessler and T. Kehoe Section, Township, Range: Section 36, T35N, R10W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex
 Slope (%): 1 Lat: 41.438761° Long: -87.514485° Datum: NAD83
 Soil Map Unit Name: Milford silty clay loam, severely eroded NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species <u>10</u> x 3 = <u>30</u>
5. _____	_____	_____	_____	FACU species <u>80</u> x 4 = <u>320</u>
50%: _____ 20%: _____	<u>0</u>	= Total Cover		UPL species <u>10</u> x 5 = <u>50</u>
				Column Totals: <u>100</u> (A) <u>400</u> (B)
				Prevalence Index = B/A = <u>4.00</u>
Herb Stratum (Plot size: <u>5 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Solidago altissima</u>	<u>45</u>	<u>Yes</u>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Festuca eliator</u>	<u>35</u>	<u>Yes</u>	<u>FACU</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Poa pratensis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Rubus occidentalis</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>100</u>	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
50%: _____ 20%: _____	<u>0</u>	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 3/4	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 5 cm Mucky Peel or Peel (S3)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (Inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D8)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 9949 Sheffield Avenue City/County: Dyer Lake _____ Sampling Date: 10/21/2015
 Applicant/Owner: Jim Nichols State: Indiana Sampling Point: 3A
 Investigator(s): T. Kessler and T. Kehoe Section, Township, Range: Section 36, T35N, R10W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 41.438761° Long: -87.514485° Datum: NAD83
 Soil Map Unit Name: Milford silty clay loam, severely eroded NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: Sample point is located within the channel of Bull Run.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____				Prevalence Index worksheet:	
5. _____				Total % Cover of:	Multiply by:
50%: _____ 20%: _____	<u>0</u> = Total Cover			OBL species <u>20</u> x 1 = <u>20</u>	
Sampling/Shrub Stratum (Plot size: <u>15 ft radius</u>)				FACW species <u>10</u> x 2 = <u>20</u>	
1. _____				FAC species _____ x 3 = _____	
2. _____				FACU species _____ x 4 = _____	
3. _____				UPL species _____ x 5 = _____	
4. _____				Column Totals: <u>30</u> (A) <u>40</u> (B)	
5. _____				Prevalence Index = B/A = <u>1.33</u>	
50%: _____ 20%: _____	<u>0</u> = Total Cover			Hydrophytic Vegetation Indicators:	
Herb Stratum (Plot size: <u>5 ft radius</u>)				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >60% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
1. <u>Persicaria hydropiper</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
2. <u>Phalaris arundinacea</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>		
3. <u>Leersia oryzoides</u>	<u>5</u>	<u>No</u>	<u>OBL</u>		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
50%: _____ 20%: _____	<u>30</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)					
1. _____					
2. _____					
50%: _____ 20%: _____	<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: 3A

Profile Description: (Describes to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/1	95	10YR 4/6	5	C	M	muck	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (Inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C6)
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C8)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D3)	<input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u>4</u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>surface</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 9949 Sheffield Avenue City/County: Dyer Lake _____ Sampling Date: 10/21/2015
 Applicant/Owner: Jim Nichols State: Indiana Sampling Point: 3B
 Investigator(s): T. Kessler and T. Kehoe Section, Township, Range: Section 36, T35N, R10W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex
 Slope (%): 1 Lat: 41.438761° Long: -87.514485° Datum: NAD83
 Soil Map Unit Name: Milford silty clay loam, severely eroded NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Sample point exists along the bank of Bull Run.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer saccharinum</u>	40	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
50%: _____ 20%: _____	40	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Lonicera tatarica</u>	20	Yes	FACU	Total % Cover of: _____ Multiply by: _____
2. <u>Cornus obliqua</u>	20	Yes	FACW	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species <u>105</u> x 2 = <u>210</u>
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species <u>55</u> x 4 = <u>220</u>
6. _____	_____	_____	_____	UPL species _____ x 5 = _____
50%: _____ 20%: _____	40	= Total Cover		Column Totals: <u>160</u> (A) <u>430</u> (B)
Herb Stratum (Plot size: <u>5 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index = B/A = <u>2.69</u>
1. <u>Phalaris arundinacea</u>	45	Yes	FACW	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Cirsium arvense</u>	35	Yes	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
50%: _____ 20%: _____	80	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
50%: _____ 20%: _____	0	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/2	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

- | | | |
|---|--|---|
| <p>Hydric Soil Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | <ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) | <p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p> |
|---|--|---|

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

- Wetland Hydrology Indicators:**
- | | | |
|--|---|---|
| <p>Primary Indicators (minimum of one is required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <ul style="list-style-type: none"> <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks) | <p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) |
|--|---|---|

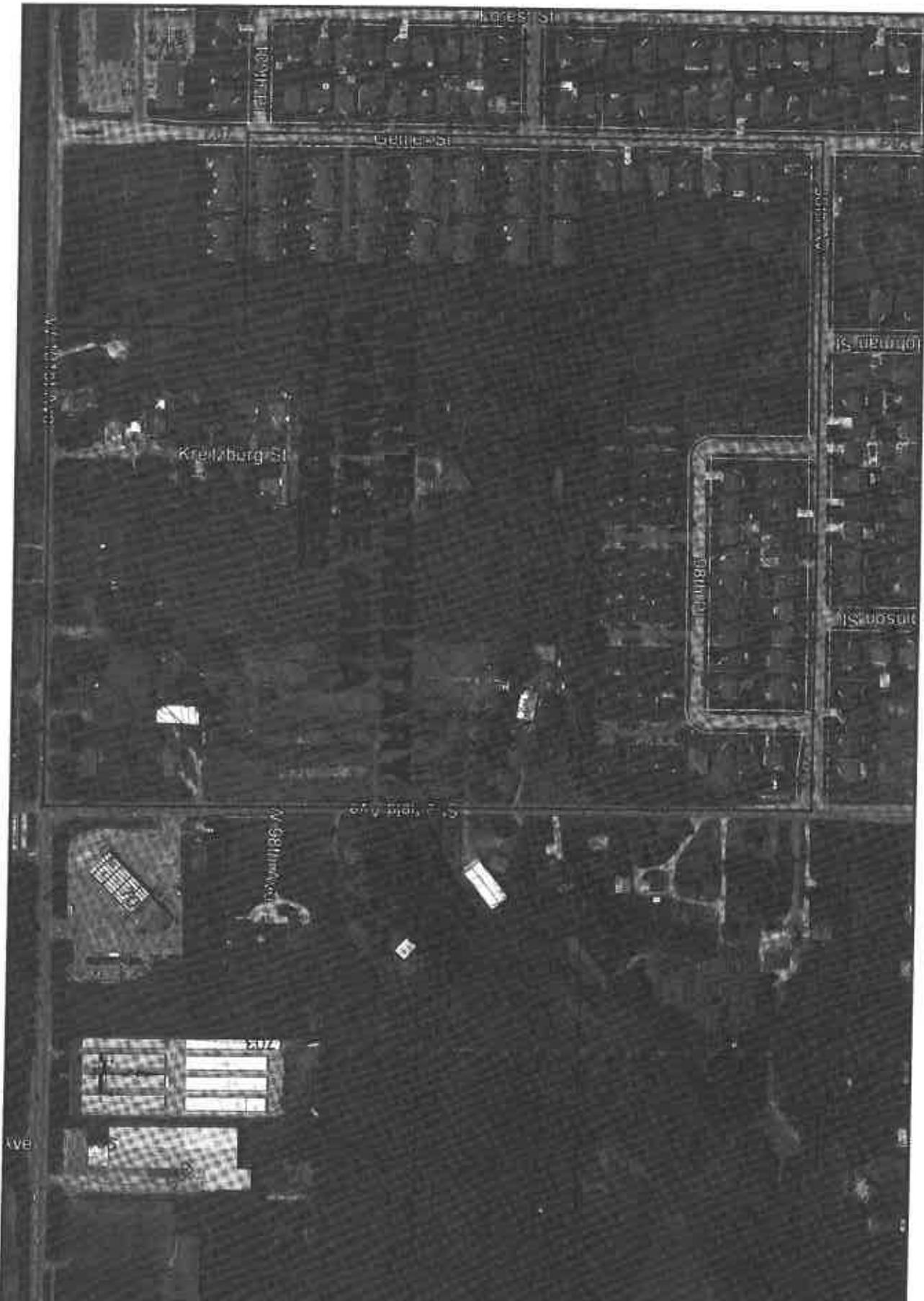
Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

(Includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



SHEETS 1 of 1 15-05-004	WINDY KNOLL ESTATES 9949 SHEFFIELD AVENUE, DYER, IN OFFSITE TRIBUTARY EXHIBIT	 LANDMARK <small>CONSTRUCTION LLC</small> 7000 WINDY KNOLL DRIVE PHOENIX, ARIZONA 85044-1829 Phone: (602) 998-2707 Fax: (602) 998-2281	DATE 4/28/16	REVISIONS OFFSITE TRIBUTARY EXHIBIT	REV. BY BJA	

ASSESSMENT OF CONSTRUCTION PLAN ELEMENTS
SECTION A

1	1.1	1.1.1	1.1.1.1	1.1.1.1.1	1.1.1.1.1.1	1.1.1.1.1.1.1	1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1.1
2	2.1	2.1.1	2.1.1.1	2.1.1.1.1	2.1.1.1.1.1	2.1.1.1.1.1.1	2.1.1.1.1.1.1.1	2.1.1.1.1.1.1.1.1	2.1.1.1.1.1.1.1.1.1
3	3.1	3.1.1	3.1.1.1	3.1.1.1.1	3.1.1.1.1.1	3.1.1.1.1.1.1	3.1.1.1.1.1.1.1	3.1.1.1.1.1.1.1.1	3.1.1.1.1.1.1.1.1.1
4	4.1	4.1.1	4.1.1.1	4.1.1.1.1	4.1.1.1.1.1	4.1.1.1.1.1.1	4.1.1.1.1.1.1.1	4.1.1.1.1.1.1.1.1	4.1.1.1.1.1.1.1.1.1
5	5.1	5.1.1	5.1.1.1	5.1.1.1.1	5.1.1.1.1.1	5.1.1.1.1.1.1	5.1.1.1.1.1.1.1	5.1.1.1.1.1.1.1.1	5.1.1.1.1.1.1.1.1.1
6	6.1	6.1.1	6.1.1.1	6.1.1.1.1	6.1.1.1.1.1	6.1.1.1.1.1.1	6.1.1.1.1.1.1.1	6.1.1.1.1.1.1.1.1	6.1.1.1.1.1.1.1.1.1
7	7.1	7.1.1	7.1.1.1	7.1.1.1.1	7.1.1.1.1.1	7.1.1.1.1.1.1	7.1.1.1.1.1.1.1	7.1.1.1.1.1.1.1.1	7.1.1.1.1.1.1.1.1.1
8	8.1	8.1.1	8.1.1.1	8.1.1.1.1	8.1.1.1.1.1	8.1.1.1.1.1.1	8.1.1.1.1.1.1.1	8.1.1.1.1.1.1.1.1	8.1.1.1.1.1.1.1.1.1
9	9.1	9.1.1	9.1.1.1	9.1.1.1.1	9.1.1.1.1.1	9.1.1.1.1.1.1	9.1.1.1.1.1.1.1	9.1.1.1.1.1.1.1.1	9.1.1.1.1.1.1.1.1.1
10	10.1	10.1.1	10.1.1.1	10.1.1.1.1	10.1.1.1.1.1	10.1.1.1.1.1.1	10.1.1.1.1.1.1.1	10.1.1.1.1.1.1.1.1	10.1.1.1.1.1.1.1.1.1
11	11.1	11.1.1	11.1.1.1	11.1.1.1.1	11.1.1.1.1.1	11.1.1.1.1.1.1	11.1.1.1.1.1.1.1	11.1.1.1.1.1.1.1.1	11.1.1.1.1.1.1.1.1.1
12	12.1	12.1.1	12.1.1.1	12.1.1.1.1	12.1.1.1.1.1	12.1.1.1.1.1.1	12.1.1.1.1.1.1.1	12.1.1.1.1.1.1.1.1	12.1.1.1.1.1.1.1.1.1
13	13.1	13.1.1	13.1.1.1	13.1.1.1.1	13.1.1.1.1.1	13.1.1.1.1.1.1	13.1.1.1.1.1.1.1	13.1.1.1.1.1.1.1.1	13.1.1.1.1.1.1.1.1.1
14	14.1	14.1.1	14.1.1.1	14.1.1.1.1	14.1.1.1.1.1	14.1.1.1.1.1.1	14.1.1.1.1.1.1.1	14.1.1.1.1.1.1.1.1	14.1.1.1.1.1.1.1.1.1
15	15.1	15.1.1	15.1.1.1	15.1.1.1.1	15.1.1.1.1.1	15.1.1.1.1.1.1	15.1.1.1.1.1.1.1	15.1.1.1.1.1.1.1.1	15.1.1.1.1.1.1.1.1.1
16	16.1	16.1.1	16.1.1.1	16.1.1.1.1	16.1.1.1.1.1	16.1.1.1.1.1.1	16.1.1.1.1.1.1.1	16.1.1.1.1.1.1.1.1	16.1.1.1.1.1.1.1.1.1
17	17.1	17.1.1	17.1.1.1	17.1.1.1.1	17.1.1.1.1.1	17.1.1.1.1.1.1	17.1.1.1.1.1.1.1	17.1.1.1.1.1.1.1.1	17.1.1.1.1.1.1.1.1.1
18	18.1	18.1.1	18.1.1.1	18.1.1.1.1	18.1.1.1.1.1	18.1.1.1.1.1.1	18.1.1.1.1.1.1.1	18.1.1.1.1.1.1.1.1	18.1.1.1.1.1.1.1.1.1
19	19.1	19.1.1	19.1.1.1	19.1.1.1.1	19.1.1.1.1.1	19.1.1.1.1.1.1	19.1.1.1.1.1.1.1	19.1.1.1.1.1.1.1.1	19.1.1.1.1.1.1.1.1.1
20	20.1	20.1.1	20.1.1.1	20.1.1.1.1	20.1.1.1.1.1	20.1.1.1.1.1.1	20.1.1.1.1.1.1.1	20.1.1.1.1.1.1.1.1	20.1.1.1.1.1.1.1.1.1
21	21.1	21.1.1	21.1.1.1	21.1.1.1.1	21.1.1.1.1.1	21.1.1.1.1.1.1	21.1.1.1.1.1.1.1	21.1.1.1.1.1.1.1.1	21.1.1.1.1.1.1.1.1.1
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23	23.1	23.1.1	23.1.1.1	23.1.1.1.1	23.1.1.1.1.1	23.1.1.1.1.1.1	23.1.1.1.1.1.1.1	23.1.1.1.1.1.1.1.1	23.1.1.1.1.1.1.1.1.1
24	24.1	24.1.1	24.1.1.1	24.1.1.1.1	24.1.1.1.1.1	24.1.1.1.1.1.1	24.1.1.1.1.1.1.1	24.1.1.1.1.1.1.1.1	24.1.1.1.1.1.1.1.1.1
25	25.1	25.1.1	25.1.1.1	25.1.1.1.1	25.1.1.1.1.1	25.1.1.1.1.1.1	25.1.1.1.1.1.1.1	25.1.1.1.1.1.1.1.1	25.1.1.1.1.1.1.1.1.1
26	26.1	26.1.1	26.1.1.1	26.1.1.1.1	26.1.1.1.1.1	26.1.1.1.1.1.1	26.1.1.1.1.1.1.1	26.1.1.1.1.1.1.1.1	26.1.1.1.1.1.1.1.1.1
27	27.1	27.1.1	27.1.1.1	27.1.1.1.1	27.1.1.1.1.1	27.1.1.1.1.1.1	27.1.1.1.1.1.1.1	27.1.1.1.1.1.1.1.1	27.1.1.1.1.1.1.1.1.1
28	28.1	28.1.1	28.1.1.1	28.1.1.1.1	28.1.1.1.1.1	28.1.1.1.1.1.1	28.1.1.1.1.1.1.1	28.1.1.1.1.1.1.1.1	28.1.1.1.1.1.1.1.1.1
29	29.1	29.1.1	29.1.1.1	29.1.1.1.1	29.1.1.1.1.1	29.1.1.1.1.1.1	29.1.1.1.1.1.1.1	29.1.1.1.1.1.1.1.1	29.1.1.1.1.1.1.1.1.1
30	30.1	30.1.1	30.1.1.1	30.1.1.1.1	30.1.1.1.1.1	30.1.1.1.1.1.1	30.1.1.1.1.1.1.1	30.1.1.1.1.1.1.1.1	30.1.1.1.1.1.1.1.1.1
31	31.1	31.1.1	31.1.1.1	31.1.1.1.1	31.1.1.1.1.1	31.1.1.1.1.1.1	31.1.1.1.1.1.1.1	31.1.1.1.1.1.1.1.1	31.1.1.1.1.1.1.1.1.1
32	32.1	32.1.1	32.1.1.1	32.1.1.1.1	32.1.1.1.1.1	32.1.1.1.1.1.1	32.1.1.1.1.1.1.1	32.1.1.1.1.1.1.1.1	32.1.1.1.1.1.1.1.1.1
33	33.1	33.1.1	33.1.1.1	33.1.1.1.1	33.1.1.1.1.1	33.1.1.1.1.1.1	33.1.1.1.1.1.1.1	33.1.1.1.1.1.1.1.1	33.1.1.1.1.1.1.1.1.1
34	34.1	34.1.1	34.1.1.1	34.1.1.1.1	34.1.1.1.1.1	34.1.1.1.1.1.1	34.1.1.1.1.1.1.1	34.1.1.1.1.1.1.1.1	34.1.1.1.1.1.1.1.1.1
35	35.1	35.1.1	35.1.1.1	35.1.1.1.1	35.1.1.1.1.1	35.1.1.1.1.1.1	35.1.1.1.1.1.1.1	35.1.1.1.1.1.1.1.1	35.1.1.1.1.1.1.1.1.1
36	36.1	36.1.1	36.1.1.1	36.1.1.1.1	36.1.1.1.1.1	36.1.1.1.1.1.1	36.1.1.1.1.1.1.1	36.1.1.1.1.1.1.1.1	36.1.1.1.1.1.1.1.1.1
37	37.1	37.1.1	37.1.1.1	37.1.1.1.1	37.1.1.1.1.1	37.1.1.1.1.1.1	37.1.1.1.1.1.1.1	37.1.1.1.1.1.1.1.1	37.1.1.1.1.1.1.1.1.1
38	38.1	38.1.1	38.1.1.1	38.1.1.1.1	38.1.1.1.1.1	38.1.1.1.1.1.1	38.1.1.1.1.1.1.1	38.1.1.1.1.1.1.1.1	38.1.1.1.1.1.1.1.1.1
39	39.1	39.1.1	39.1.1.1	39.1.1.1.1	39.1.1.1.1.1	39.1.1.1.1.1.1	39.1.1.1.1.1.1.1	39.1.1.1.1.1.1.1.1	39.1.1.1.1.1.1.1.1.1
40	40.1	40.1.1	40.1.1.1	40.1.1.1.1	40.1.1.1.1.1	40.1.1.1.1.1.1	40.1.1.1.1.1.1.1	40.1.1.1.1.1.1.1.1	40.1.1.1.1.1.1.1.1.1
41	41.1	41.1.1	41.1.1.1	41.1.1.1.1	41.1.1.1.1.1	41.1.1.1.1.1.1	41.1.1.1.1.1.1.1	41.1.1.1.1.1.1.1.1	41.1.1.1.1.1.1.1.1.1
42	42.1	42.1.1	42.1.1.1	42.1.1.1.1	42.1.1.1.1.1	42.1.1.1.1.1.1	42.1.1.1.1.1.1.1	42.1.1.1.1.1.1.1.1	42.1.1.1.1.1.1.1.1.1
43	43.1	43.1.1	43.1.1.1	43.1.1.1.1	43.1.1.1.1.1	43.1.1.1.1.1.1	43.1.1.1.1.1.1.1	43.1.1.1.1.1.1.1.1	43.1.1.1.1.1.1.1.1.1
44	44.1	44.1.1	44.1.1.1	44.1.1.1.1	44.1.1.1.1.1	44.1.1.1.1.1.1	44.1.1.1.1.1.1.1	44.1.1.1.1.1.1.1.1	44.1.1.1.1.1.1.1.1.1
45	45.1	45.1.1	45.1.1.1	45.1.1.1.1	45.1.1.1.1.1	45.1.1.1.1.1.1	45.1.1.1.1.1.1.1	45.1.1.1.1.1.1.1.1	45.1.1.1.1.1.1.1.1.1
46	46.1	46.1.1	46.1.1.1	46.1.1.1.1	46.1.1.1.1.1	46.1.1.1.1.1.1	46.1.1.1.1.1.1.1	46.1.1.1.1.1.1.1.1	46.1.1.1.1.1.1.1.1.1
47	47.1	47.1.1	47.1.1.1	47.1.1.1.1	47.1.1.1.1.1	47.1.1.1.1.1.1	47.1.1.1.1.1.1.1	47.1.1.1.1.1.1.1.1	47.1.1.1.1.1.1.1.1.1
48	48.1	48.1.1	48.1.1.1	48.1.1.1.1	48.1.1.1.1.1	48.1.1.1.1.1.1	48.1.1.1.1.1.1.1	48.1.1.1.1.1.1.1.1	48.1.1.1.1.1.1.1.1.1
49	49.1	49.1.1	49.1.1.1	49.1.1.1.1	49.1.1.1.1.1	49.1.1.1.1.1.1	49.1.1.1.1.1.1.1	49.1.1.1.1.1.1.1.1	49.1.1.1.1.1.1.1.1.1
50	50.1	50.1.1	50.1.1.1	50.1.1.1.1	50.1.1.1.1.1	50.1.1.1.1.1.1	50.1.1.1.1.1.1.1	50.1.1.1.1.1.1.1.1	50.1.1.1.1.1.1.1.1.1
51	51.1	51.1.1	51.1.1.1	51.1.1.1.1	51.1.1.1.1.1	51.1.1.1.1.1.1	51.1.1.1.1.1.1.1	51.1.1.1.1.1.1.1.1	51.1.1.1.1.1.1.1.1.1
52	52.1	52.1.1	52.1.1.1	52.1.1.1.1	52.1.1.1.1.1	52.1.1.1.1.1.1	52.1.1.1.1.1.1.1	52.1.1.1.1.1.1.1.1	52.1.1.1.1.1.1.1.1.1
53	53.1	53.1.1	53.1.1.1	53.1.1.1.1	53.1.1.1.1.1	53.1.1.1.1.1.1	53.1.1.1.1.1.1.1	53.1.1.1.1.1.1.1.1	53.1.1.1.1.1.1.1.1.1
54	54.1	54.1.1	54.1.1.1	54.1.1.1.1	54.1.1.1.1.1	54.1.1.1.1.1.1	54.1.1.1.1.1.1.1	54.1.1.1.1.1.1.1.1	54.1.1.1.1.1.1.1.1.1
55	55.1	55.1.1	55.1.1.1	55.1.1.1.1	55.1.1.1.1.1	55.1.1.1.1.1.1	55.1.1.1.1.1.1.1	55.1.1.1.1.1.1.1.1	55.1.1.1.1.1.1.1.1.1
56	56.1	56.1.1	56.1.1.1	56.1.1.1.1	56.1.1.1.1.1	56.1.1.1.1.1.1	56.1.1.1.1.1.1.1	56.1.1.1.1.1.1.1.1	56.1.1.1.1.1.1.1.1.1
57	57.1	57.1.1	57.1.1.1	57.1.1.1.1	57.1.1.1.1.1	57.1.1.1.1.1.1	57.1.1.1.1.1.1.1	57.1.1.1.1.1.1.1.1	57.1.1.1.1.1.1.1.1.1
58	58.1	58.1.1	58.1.1.1	58.1.1.1.1	58.1.1.1.1.1	58.1.1.1.1.1.1	58.1.1.1.1.1.1.1	58.1.1.1.1.1.1.1.1	58.1.1.1.1.1.1.1.1.1
59	59.1	59.1.1	59.1.1.1	59.1.1.1.1	59.1.1.1.1.1	59.1.1.1.1.1.1	59.1.1.1.1.1.1.1	59.1.1.1.1.1.1.1.1	59.1.1.1.1.1.1.1.1.1
60	60.1	60.1.1	60.1.1.1	60.1.1.1.1	60.1.1.1.1.1	60.1.1.1.1.1.1	60.1.1.1.1.1.1.1	60.1.1.1.1.1.1.1.1	60.1.1.1.1.1.1.1.1.1
61	61.1	61.1.1	61.1.1.1	61.1.1.1.1	61.1.1.1.1.1	61.1.1.1.1.1.1	61.1.1.1.1.1.1.1	61.1.1.1.1.1.1.1.1	61.1.1.1.1.1.1.1.1.1
62	62.1	62.1.1	62.1.1.1	62.1.1.1.1	62.1.1.1.1.1	62.1.1.1.1.1.1	62.1.1.1.1.1.1.1	62.1.1.1.1.1.1.1.1	62.1.1.1.1.1.1.1.1.1
63	63.1	63.1.1	63.1.1.1	63.1.1.1.1	63.1.1.1.1.1	63.1.1.1.1.1.1	63.1.1.1.1.1.1.1	63.1.1.1.1.1.1.1.1	63.1.1.1.1.1.1.1.1.1
64	64.1	64.1.1	64.1.1.1	64.1.1.1.1	64.1.1.1.1.1	64.1.1.1.1.1.1	64.1.1.1.1.1.1.1	64.1.1.1.1.1.1.1.1	64.1.1.1.1.1.1.1.1.1
65	65.1	65.1.1	65.1.1.1	65.1.1.1.1	65.1.1.1.1.1	65.1.1.1.1.1.1	65.1.1.1.1.1.1.1	65.1.1.1.1.1.1.1.1	65.1.1.1.1.1.1.1.1.1
66	66.1	66.1.1	66.1.1.1	66.1.1.1.1	66.1.1.1.1.1	66.1.1.1.1.1.1	66.1.1.1.1.1.1.1	66.1.1.1.1.1.1.1.1	66.1.1.1.1.1.1.1.1.1
67	67.1	67.1.1	67.1.1.1	67.1.1.1.1	67.1.1.1.1.1	67.1.1.1.1.1.1	67.1.1.1.1.1.1.1	67.1.1.1.1.1.1.1.1	67.1.1.1.1.1.1.1.1.1
68	68.1	68.1.1	68.1.1.1	68.1.1.1.1	68.1.1.1.1.1	68.1.1.1.1.1.1	68.1.1.1.1.1.1.1	68.1.1.1.1.1.1.1.1	68.1.1.1.1.1.1.1.1.1
69	69.1	69.1.1	69.1.1.1	69.1.1.1.1	69.1.1.1.1.1	69.1.1.1.1.1.1	69.1.1.1.1.1.1.1	69.1.1.1.1.1.1.1.1	69.1.1.1.1.1.1.1.1.1
70	70.1	70.1.1	70.1.1.1	70.1.1.1.1	70.1.1.1.1.1	70.1.1.1.1.1.1	70.1.1.1.1.1.1.1	70.1.1.1.1.1.1.1.1	70.1.1.1.1.1.1.1.1.1

LANDMARK

ENGINEERING LLC

ENGINEERS

PLANNERS

SURVEYORS

7808 WEST 103RD STREET
PALOS HILLS, IL 60465

PHONE: (708) 599-3737
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TRANSMITTAL

To: **LAKE COUNTY DRAINAGE BOARD**
c/o Lake County Surveyor's Office
2293 N. Main Street, Building A, 3rd Floor
Crown Point, IN 46307

Date: May 26, 2016
Job No: 15-03-004
Re: **WINDY KNOLL ESTATES**
Dyer, IN

Attn: Ms. Mary Ellen Kupsik

PLEASE FIND ENCLOSED THE FOLLOWING ITEMS:

COPIES	DATE	DESCRIPTION
1	3-15-16	Primary Plat Plans (Approved)
1	4-29-16	Offsite Tributary Exhibit
1	3-15-16	Stormwater Management Report
1	--	Lake County Storm Water Permit Approval
1	--	Permit Application (Culvert)
1	5-16-16	Lake County Engineers' Approval Letter

THESE ARE TRANSMITTED AS CHECKED BELOW:

X FOR APPROVAL
FOR YOUR USE
AS REQUESTED

VIA FIRST CLASS MAIL
X VIA FedEX OVERNIGHT
VIA MESSENGER

Ms. Kupsik:

Pursuant to our telephone conversation, I have enclosed one (1) set of the approved Primary Plat plans and one (1) copy of all additional items listed for Windy Knoll Estates for your review and approval. Thank you for your continued cooperation with **LANDMARK** on this and other projects.

Sincerely,



Brad E. Hensley, PE
Vice President

LANDMARK ENGINEERING LLC



cc: Christopher Burke Engineering, Mr. Thomas Burke w/enclosures

erate, medium, subangular blocky and moderate, medium, angular blocky; firm; dark-gray (10YR 4/1) clay films on ped faces; few small pebbles throughout; strongly acid; clear, wavy boundary.

B2st—26 to 36 inches, gray (10YR 5/1) heavy silty clay loam that has many, medium, distinct mottles of yellowish brown (10YR 5/6); weak, coarse, prismatic structure that breaks to moderate, coarse, angular blocky; very firm; dark-gray (10YR 4/1) clay films on ped faces; few small pebbles throughout; strongly acid; clear, wavy boundary.

C—36 to 60 inches, brown (10YR 5/3) silty clay loam; massive; very firm; many small pebbles throughout; moderately alkaline (calcareous).

The solum ranges from 20 to 42 inches in thickness. The A horizons range from dark gray to brown in color and from 10 to 15 inches in thickness. The B horizons are silty clay loam to clay.

Blount soils have lighter colored A horizons than Elliott soils. Blount soils formed in moderately fine textured glacial till and lack the stratified layers of the Del Rey soils, which formed in lacustrine deposits.

Blount silt loam, 0 to 2 percent slopes (B1A).—On this soil runoff is slow, and the erosion hazard is slight. Included with this soil in mapping are small areas of gently sloping Morley silt loam on slightly elevated rises and of Pewamo silt loam in depressions. Also included are small areas of a soil that is mostly gray near the surface.

The major limitation is wetness, but it can be overcome by establishing and maintaining an adequate drainage system. This soil responds well to good management and is suitable for intensive cropping. The main crops grown are corn, soybeans, and wheat. (Capability unit IIw-2)

Bono Series

The Bono series consists of deep, very poorly drained, fine-textured soils. These soils occur on broad depressional flats in the lake plains and are nearly level. They formed in fine-textured, glacial slack-water deposits.

Typically the surface layer is silty clay about 21 inches thick. The upper 15 inches is black, and the lower part is very dark gray.

The firm silty clay subsoil is about 18 inches thick and is gray mottled with strong brown.

The underlying material also is gray, firm silty clay, but it is mottled with yellowish brown.

Bono soils have high available moisture capacity and organic-matter content. These soils respond well to good management. The water table is at or near the surface in spring; hence, an adequate drainage system is needed to remove excess water. Internal drainage and permeability are very slow. Surface runoff is very slow or ponded.

Most areas of Bono soils are cultivated, though a few areas remain in marsh grasses. If these soils are properly managed, they are suited to all crops commonly grown in the county.

Typical profile of Bono silty clay, 200 feet west and 280 feet south of NE. corner of sec. 1, T. 35 N., R. 10 W.:

Ap—0 to 10 inches, black (10YR 2/1) light silty clay; moderate, medium, angular blocky structure; firm; many roots; medium acid; abrupt, smooth boundary.

A1—10 to 15 inches, black (N 2/0) silty clay; moderate, medium and coarse, angular blocky structure; firm; many roots along ped faces; medium acid; clear, wavy boundary.

A3—15 to 21 inches, very dark gray (N 3/0) silty clay; moderate, fine, angular blocky structure; firm; few roots; many dark reddish-brown (5YR 3/3) iron stains throughout; slightly acid; abrupt, irregular boundary.

B2g—21 to 39 inches, gray (N 5/0) silty clay that has many, medium, distinct mottles of strong brown (7.5YR 5/6); weak, medium, prismatic structure in place that breaks to moderate, medium, angular blocky when disturbed; firm when moist and sticky when wet; thick, gray (N 4/0) clay films on many ped faces; many yellowish-red (5YR 4/8) iron stains along root channels; black (N 2/0) material from the A horizon penetrates cracks and cleavages that range from 1 to 4 inches in width and extend through this horizon; neutral; abrupt, irregular boundary.

Cg—39 to 60 inches, gray (5Y 5/1) silty clay that has many, medium, distinct mottles of yellowish brown (10YR 5/6); weak, very coarse, subangular blocky structure; firm when moist; sticky when wet; few roots; thin, gray (N 5/0) clay films on many ped surfaces; 1 percent coarse fragments that are mostly shale and dolomitic limestone; black (N 2/0) material from A horizon penetrates cracks and cleavages in upper part of horizon; thin lenses of silt and fine sand; moderately alkaline (calcareous).

The A horizons range from 15 to 24 inches in thickness. The B horizon is 40 to 60 percent clay. In some places, the B horizon contains thin layers of silty clay loam and of clay loam.

Bono soils formed in lacustrine material and are stratified. In contrast, Pewamo soils formed in moderately fine textured glacial till and show no stratification.

Bono silty clay (0 to 2 percent slopes) (Bn).—This soil is on broad, depressional flats in the old Chicago Lake plain area. Included with this soil in mapping are small areas of nearly level Milford silty clay loam.

Wetness is the major limitation. Tilth is poor. Because Bono silty clay remains wet until late in spring, field operations are delayed. This soil tends to puddle and to become hard and cloddy if it is cultivated when moisture content is high. Under good management, including an adequate drainage system, Bono silty clay is suited to all crops commonly grown in the county. The main crops are corn and soybeans. (Capability unit IIIw-2)

Borrow Pits

Borrow pits (Bp) consists of areas where loamy material, peat, and muck have been removed for use on the shoulders and slopes of roads or for land fill. The surface layer and subsoil have been removed from various kinds of soils, or have been disturbed so much that the soils cannot be identified. Borrow pits can be used as wildlife habitat. (Capability unit VIII-1)

Brady Series

The Brady series consists of deep, somewhat poorly drained, moderately coarse textured soils. These soils occur on outwash plains and are nearly level. They formed in moderately coarse textured outwash materials and characteristically are underlain by fine or medium sand.

Typically the surface layer is fine sandy loam about 10 inches thick. The upper 8 inches is very dark gray, and the lower part is dark grayish brown.

The subsoil is about 32 inches thick. The upper 15

films on many ped faces; neutral; clear, wavy boundary.

B22t-19 to 26 inches, dark grayish-brown (10YR 4/2) silty clay that has many, medium, distinct mottles of yellowish brown (10YR 5/8); moderate, medium, subangular blocky structure; firm; very dark gray (10YR 3/1) organic coatings and clay films on ped faces; neutral; clear, irregular boundary.

C1-26 to 32 inches, grayish-brown (2.5Y 5/2) light silty clay loam that has many, medium, distinct mottles of yellowish brown (10YR 5/8); moderate, coarse, subangular blocky structure; friable; few roots; dark-gray (N 4/0) clay films on many ped faces; very dark gray (10YR 3/1) material filling vertical pockets throughout horizon; tongues from B22 horizon; moderately alkaline (calcareous); clear, wavy boundary.

C2g-32 to 60 inches, light brownish-gray (2.5Y 6/2) silty clay loam that has many, medium, distinct mottles of yellowish brown (10YR 5/8); moderate, coarse, subangular blocky structure; friable; few roots; 3 percent coarse fragments; dark-gray (N 4/0), thick clay films on many ped faces; moderately alkaline (calcareous).

The A horizons range from 10 to 20 inches in thickness. Mottles in the upper part of the B horizons range from dark grayish brown to light brownish gray. Depth to calcareous till ranges from 20 to 42 inches.

Elliott soils have darker colored A horizons than Blount and Del Rey soils. The Elliott soils formed in moderately fine textured glacial till material and lack the strata that are typical of the Del Rey soils, which formed in lacustrine materials.

Elliott silt loam (0 to 2 percent slopes) (Ei).—Included with this soil in mapping are small areas of Markham silt loam that has slopes of less than 2 percent and of Pewamo silty clay loam in depressions. Also included are small areas of Markham silt loam, 2 to 6 percent slopes, eroded. Other inclusions are some areas where Elliott silt loam is eroded and other areas where it has slopes of more than 2 percent.

Runoff is slow, and the erosion hazard slight. Wetness is the major limitation. An adequate drainage system is needed to remove excess water. This soil responds well to good management and is suitable for intensive cropping. The main crops grown are corn, soybeans, and wheat. (Capability unit IIw-2)

Gilford Series

The Gilford series consists of deep, very poorly drained, moderately coarse textured and medium-textured soils. These soils are along glacial channels and on broad depressional outwash plains. They formed in moderately coarse textured and medium-textured outwash material.

Typically the surface layer is black fine sandy loam about 22 inches thick.

The subsoil, about 16 inches thick, is dark-gray sandy loam mottled with light brownish gray and yellowish brown.

The underlying material is loose, fine and medium sand that is light brownish gray and that shades to brownish yellow and yellowish brown as depth increases.

Gilford soils are high in organic-matter content and natural fertility. Tillth is good. These soils have moderate available moisture capacity and moderately rapid permeability. Surface runoff is very slow. Because the water table is high in spring, a suitable drainage system

that combines open ditches, tiles, and water table control structures is needed to insure good crop growth. This system of drainage is well suited to these soils, for it prevents the lowering of the water table and droughtiness.

Most areas of Gilford soils are cultivated. Under good management these soils are well suited to all crops commonly grown in the county. In the northern part of the county, they are used extensively for special crops.

Typical profile of Gilford fine sandy loam, 100 feet west and 100 feet north of SE. corner of SE $\frac{1}{4}$ sec. 29, T. 32 N., R. 9 W.:

Ap-0 to 11 inches, black (10YR 2/1) fine sandy loam; moderate, medium, granular structure; very friable; neutral; abrupt, smooth boundary.

A1-11 to 22 inches, black (10YR 2/1) fine sandy loam; moderate, fine and medium, subangular blocky structure; friable; pockets of black (10YR 2/1) sandy clay loam, and lenses of light brownish-gray (10YR 6/2) medium sand; slightly acid; clear, wavy boundary.

Bg-22 to 38 inches, dark-gray (10YR 4/1) sandy loam that has common, medium, distinct mottles of light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6); weak, medium and coarse, subangular blocky structure; friable; pockets of sandy clay loam up to 4 inches in thickness, and thin lenses of light brownish-gray (10YR 6/2) medium sand; neutral; abrupt, wavy boundary.

C1-38 to 50 inches, light brownish-gray (10YR 6/2) fine and medium sand; single grain; loose; neutral; abrupt, smooth boundary.

C2-50 to 60 inches, brownish-yellow (10YR 6/6) and yellowish-brown (10YR 5/6) fine and medium sand; single grain; loose; moderately alkaline (calcareous).

The A horizons range in thickness from 12 to 24 inches and in color from black to very dark grayish brown. The pockets of sandy clay loam in the B horizon are as much as 10 inches thick in some places, and in other places the sandy clay loam occurs in thin lenses. The C horizons contain gravel in some places. Depth to moderately alkaline sand ranges from 42 to 60 inches or more.

Gilford soils have a finer textured solum than Maumee soils. The B horizon in Gilford soils is less clayey and more permeable than the B horizon in Remselaer soils.

Gilford fine sandy loam (0 to 2 percent slopes) (Gc).—This soil is mainly along the Kankakee River in the southern part of the county. Its profile is the one described as typical for the series. Included with this soil in mapping are small areas where the surface layer is loam. Also included are small depressional areas of Maumee loamy fine sand and of Brady fine sandy loam. Other inclusions are in areas where less than 8 inches of muck is on the soil surface and in other areas where strata of fine sand and silt or till are at a depth below 40 inches.

As the surface layer of this soil dries out, it crusts, and sand grains are free to blow. Young plants may be destroyed or severely damaged by this windblown sand. The major limitation is wetness, which can be overcome by a suitable controlled drainage system. This soil responds well to good management and is suitable for intensive cropping. The main crops grown are corn and soybeans; the special crops grown are tomatoes, onions, cabbage, and carrots. (Capability unit IIw-4)

Gilford mucky fine sandy loam (0 to 2 percent slopes) (Gf).—This soil has a profile similar to that described as typical for the series, but the uppermost 8 to 12 inches of

east and 30 feet north of SW. corner of NW $\frac{1}{4}$ sec. 18, T. 32 N., R. 9 W.:

- Ap—0 to 9 inches, black (10YR 2/1) silty clay loam; weak, medium, subangular blocky structure; firm; slightly acid; abrupt, smooth boundary.
- A1—9 to 17 inches, very dark gray (N 3/0) silty clay loam that has common, fine, distinct mottles of dark brown (7.5YR 3/2); moderate, medium, prismatic structure; firm; shiny faces on peds; slightly acid; gradual, wavy boundary.
- B21—17 to 23 inches, dark-gray (5Y 4/1) light silty clay that has many, medium, prominent mottles of yellowish red (5YR 4/6) and few, medium, distinct mottles of light brownish gray (2.5YR 6/2); moderate, medium, prismatic structure; firm; shiny faces on peds; very dark gray (N 3/0) fillings in cracks; neutral acid; clear, wavy boundary.
- B22t—23 to 37 inches, gray (5Y 6/1) silty clay that has common, medium, prominent mottles of yellowish red (5YR 4/6); moderate, medium, prismatic structure; firm; shiny faces on peds; neutral; clear, wavy boundary.
- C—37 to 60 inches, gray (5Y 5/1) silty clay loam that has common, medium, prominent mottles of yellowish brown (10YR 5/6); weak, medium, prismatic structure; firm; very dark gray (N 3/0) organic stains; neutral.

The solum ranges from 36 to 60 inches in thickness. The A horizons are 10 to 22 inches thick. The B horizons contain thin stratified layers of fine sand and gravelly sandy loam in some places. Areas underlain by calcareous sand and gravel at a depth of 40 to 60 inches are mapped separately as a sandy substratum phase.

Milford soils have less clay in the A horizons and C horizons than Bono soils, which developed in silty clay material. Milford soils developed in lacustrine material, whereas Pewamo soils developed in moderately fine textured glacial till and lack stratified layers. The A horizons and B horizons of Milford soils are finer textured than corresponding horizons in Rensselaer soils, which are underlain by interbedded silt and sand.

Milford silt loam, overwash (0 to 2 percent slopes) (Mo).—This soil has a profile similar to that described as typical for the series, except that the surface layer of this soil is silt loam instead of silty clay loam. It is underlain by silty clay loam or clay loam glacial till or lacustrine material. The silt loam extends from the surface to a depth of 8 to 20 inches.

Included with this soil in mapping are small areas where the dark-colored layer extends to a depth of 28 inches. Also included are areas of Del Rey silt loam, Pewamo silt loam, and Rensselaer loam.

Wetness is the major limitation, and an adequate drainage system is needed. This soil responds well to good management and is well suited to crops and small grains. The main crops are corn, soybeans, and wheat. (Capability unit IIw-1)

Milford silty clay loam (0 to 2 percent slopes) (Mr).—This soil has the profile described as typical for the series. It is underlain by silty clay loam lacustrine material.

Included with this soil in mapping are small areas of nearly level, slightly elevated Del Rey silt loam, of depressional Bono silty clay and Rensselaer loam, and of Marsh.

The major limitation is wetness, and an adequate drainage system is needed. Tillth is poor. If this soil is cultivated when the moisture content is too high, large clods are likely to form. These clods become hard when

dry, and they are extremely difficult to break. This soil responds well to good management and is suitable for intensive cropping. The main crops are corn, soybeans, and wheat. (Capability unit IIw-1)

Milford silty clay loam, sandy substratum (0 to 2 percent slopes) (Ms).—This soil has a profile similar to that described as typical for the series, except that the underlying material in this soil is sand and gravel at a depth of 40 to 60 inches. Also, a thin layer of sandy loam to clay loam is between the silty clay loam and the sand and gravel.

Included with this soil in mapping are small areas of Rensselaer loam and Del Rey silt loam.

Wetness is the major limitation, and tillth is poor. If this soil is cultivated when the moisture content is high, large clods are likely to form. These clods become hard when dry and are extremely difficult to break. Under good management that provides a drainage system, this soil is suited to all crops commonly grown in the county. The sand and gravel underlying this soil at a depth of 40 to 60 inches favor good drainage. The main crops grown are corn, soybeans, and wheat. (Capability unit IIw-1)

Milford-Linwood-Walkkill complex (0 to 2 percent slopes) (Ml).—This complex consists of poorly drained and very poorly drained soils that formed in organic materials and loamy and clayey mineral soils. It occurs in slack water or lacustrine areas.

The complex is about 30 percent Milford silty clay loam, about 30 percent Linwood muck, and about 30 percent Walkkill silt loam. Included in the mapping of this complex are moderately well drained soils that dominantly are of silt loam and loam textures throughout but that contain thin layers, or strata, of sandy loam. Also included are areas of soils that are calcareous throughout the profile.

Wetness is the major limitation. Surface runoff is very slow or ponded, and internal drainage is very slow. These soils have high available moisture capacity and organic-matter content. They are subject to flooding unless protected by levees.

Areas that have been cleared of trees and have adequate drainage are mostly cultivated. Other areas remain in pasture, woodland, or swamp grasses. (Capability unit IIw-1)

Morley Series

The Morley series consists of deep, moderately well drained, medium-textured and moderately fine textured soils that are gently sloping to steep (fig. 7). These soils formed in moderately fine textured glacial till under a thin mantle of loess.

Typically the surface layer is silt loam about 8 inches thick. The uppermost 6 inches is dark grayish brown, and the lower part is brown.

The subsoil extends to a depth of 44 inches and has a few small pebbles scattered throughout. The uppermost 7 inches is firm, yellowish-brown silty clay loam. The middle is very firm, yellowish-brown silty clay mottled in the lower part with grayish brown. The lower 17 inches of the subsoil, mottled with yellowish and brownish colors, is grayish-brown, very firm silty clay that grades

to firm silty clay loam. The subsoil is strongly acid to a depth of 27 inches, is slightly acid at that depth, and is moderately alkaline below a depth of 36 inches.

The underlying material is calcareous silty clay loam that contains many small pebbles and is mottled with light brownish gray and yellowish brown.

Morley soils have high available moisture capacity and are low in natural fertility and organic-matter content. Permeability is slow. These soils are subject to erosion because the subsoil and underlying material are clayey. Erosion control practices are needed to reduce soil losses.

Most areas of the Morley soils are cultivated or are in bluegrass pasture. A few areas remain wooded. Under good management, these soils are suited to all crops commonly grown in the county and crop growth is good.

Typical profile of Morley silt loam, 2 to 6 percent slopes, 200 feet east and 600 feet south of NW $\frac{1}{4}$ sec. 21, T. 33 N., R. 7 W.:

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) silt loam; moderate, fine and medium, granular structure; friable; slightly acid; abrupt, smooth boundary.

A2—6 to 8 inches, brown (10YR 5/3) silt loam; weak, coarse, platy structure that breaks to moderate, fine, subangular blocky; friable; strongly acid; abrupt, wavy boundary.



Figure 7.—Profile of Morley silt loam, 2 to 6 percent slopes.

B1t—8 to 12 inches, yellowish-brown (10YR 5/4) light silty clay loam; moderate, fine and medium, subangular blocky structure; firm; few small pebbles; strongly acid; clear, wavy boundary.

B21t—12 to 15 inches, yellowish-brown (10YR 5/4) silty clay loam; moderate, fine and medium, subangular blocky structure; firm; very dark brown (10YR 3/2) clay films on ped faces; few small pebbles; strongly acid; abrupt, wavy boundary.

B22t—15 to 23 inches, yellowish-brown (10YR 5/4) silty clay; weak, medium, prismatic structure that breaks to strong, coarse, angular blocky; very firm; very dark brown (10YR 3/2) clay films on ped faces; few small pebbles; strongly acid; clear, wavy boundary.

B23t—23 to 27 inches, yellowish-brown (10YR 5/4) silty clay that has few, fine, faint mottles of grayish brown (10YR 5/2); weak, medium, prismatic structure that breaks to strong, coarse, angular blocky; very firm; very dark brown (10YR 3/2) clay films on ped faces; few small pebbles; strongly acid; clear, wavy boundary.

B24t—27 to 36 inches, grayish-brown (10YR 5/2) silty clay that has common, fine, distinct mottles of yellowish brown (10YR 5/8); weak, coarse, prismatic structure that breaks to moderate, coarse, angular blocky; very firm; very dark brown (10YR 3/2) clay films on ped faces; few small pebbles; slightly acid; clear, wavy boundary.

B3—36 to 44 inches, grayish-brown (10YR 5/2) silty clay loam that has many, medium, distinct mottles of brownish yellow (10YR 6/6); weak, medium, subangular blocky and angular blocky structure; firm; very dark grayish-brown (10YR 3/2) clay films on ped faces; few small pebbles; moderately alkaline (calcareous); clear, wavy boundary.

C—44 to 60 inches, light brownish-gray (10YR 6/2) silty clay loam that has few, medium, distinct mottles of yellowish brown (10YR 5/4); massive; firm; many small pebbles; moderately alkaline (calcareous).

The A horizons range from dark gray to brown in color and from 6 to 11 inches in thickness. The solum ranges from 20 to 48 inches in thickness.

Morley soils have lighter colored A horizons than Markham soils. The B horizons in Morley soils are browner and less mottled than the B horizons in Blount soils.

Morley silt loam, 2 to 6 percent slopes (MuB).—This soil is along drainageways and streams or on small knolls. It has the profile described as typical for the series. Included with this soil in mapping are small areas of gently sloping, eroded Morley silt loam. Also included are areas of Morley silt loam, 6 to 12 percent slopes, eroded. Other inclusions are some areas where gray mottles occur just below the surface layer. Runoff is medium.

This Morley soil has only moderate limitations, and crops grow well on it. The main crops grown are corn, soybeans, and wheat. This soil, however, normally is not farmed as a separate unit because it is so small in size. It generally is included in the farming operations of surrounding or adjacent soils. (Capability unit IIe-6)

Morley silt loam, 6 to 12 percent slopes, eroded (MuC2).—This soil is on narrow breaks that border the valleys and on ridges along small drainageways that dissect broader areas. It has a profile similar to that described as typical for the series, but some of the yellowish-brown material from the subsoil has been mixed into the dark grayish-brown plow layer and the depth to limy silty clay loam is only about 30 inches. Included with this soil in mapping are small spots where the surface layer is slightly eroded or severely eroded.

This eroded Morley soil can be used for all crops

grown in the county but has some serious limitations. It is highly susceptible to erosion because slopes are strong and surface runoff is medium to rapid. Excessive use for row crops results in an added loss of soil from the surface layer and reduces organic-matter content and natural fertility. Proper erosion control practices are needed if crop growth is to be good. The main crops grown are small grains and meadow plants. (Capability unit IIIc-6)

Morley silt loam, 12 to 18 percent slopes, eroded (MuD2).—This soil is on breaks along the major streams in the central part of the county. It has a profile similar to that described as typical for the series, but some of the yellowish-brown material from the subsoil has been mixed with remnants of the original surface layer and the depth to limy silty clay loam is only about 20 inches. Included with this soil in mapping are small areas of slightly eroded Morley silt loam and of severely eroded Morley silty clay loam.

This soil is highly susceptible to erosion because slopes are moderately steep and surface runoff is rapid. Most areas are in permanent pasture or are wooded. Farming on the contour and maintaining ground cover throughout the year help in controlling erosion and runoff. (Capability unit IVe-6)

Morley silt loam, 18 to 25 percent slopes (MuE).—This soil has a profile similar to that of Morley silt loam, 2 to 6 percent slopes. It is on wooded breaks along major streams in the county. Included with this soil in mapping are small areas of Morley silt loam, 12 to 18 percent slopes, eroded.

Erosion is the major hazard because of steep slopes and rapid runoff. Permanent pasture is a suitable use for this soil (fig. 8). The response to additions of lime and fertilizer is good. (Capability unit VIe-1)

Morley silty clay loam, 2 to 6 percent slopes, severely eroded (Mv53).—This soil is on knolls and ridgetops adjacent to the level, somewhat poorly drained Blount soils and to the depressional, poorly drained Pewamo soils. It has a profile similar to that described as typical for the series except that erosion has removed most of the original surface layer. The plow layer consists largely of yellowish-brown silty clay loam from the subsoil and remnants of the original surface layer. The plow layer is lighter colored, lower in organic-matter content, and more difficult to work than the original surface layer. Runoff is medium to rapid.

Included with this soil in mapping are small areas of Morley silt loam, 6 to 12 percent slopes, eroded.



Figure 8.—Permanent pasture in foreground. Hardwoods on breaks in background. The soil is Morley silt loam, 18 to 25 percent slopes.

This severely eroded silty clay loam has severe limitations for use as cropland. Although it generally is farmed with less eroded Blount or Pewamo soils, this soil requires special management that helps to control erosion and to maintain good growth of crops. It is used mainly for small grains and as meadow. (Capability unit IIIe-6)

Morley silty clay loam, 6 to 12 percent slopes, severely eroded (MvC3).—This soil is along drainageways or in depressions. It has a profile similar to that described for the series except that erosion has removed most of the surface layer and, in places, some of the subsoil. The plow layer consists mostly of yellowish-brown silty clay loam from the subsoil and remnants of the grayish-brown original surface layer. The plow layer is lighter colored, lower in organic-matter content, and more difficult to plow than the original surface layer. This layer is cloddy when dry. Many small pebbles are on the surface, and often larger stones are plowed up. Gullies are common. The depth to limy silty clay loam is only about 20 inches.

Included with this soil in mapping are small areas of

Morley silt loam, 6 to 12 percent slopes, eroded, and of strongly sloping Morley silty clay loam.

This soil has very severe limitations for use as cropland. It is highly susceptible to erosion and is low in fertility. Surface runoff is rapid. This soil is better suited to meadow or pasture (fig. 9) in a long rotation with row crops than to row crops grown continuously. Maintaining ground cover throughout the year is of prime importance. (Capability unit IVe-6)

Morley silty clay loam, 18 to 25 percent slopes, severely eroded (MvE3).—This gullied soil is on breaks along the streams and drainageways of the county. It has a profile similar to that described as typical for the series except that erosion has removed most of the surface layer and, in places, some of the subsoil. The plow layer consists mostly of yellowish-brown silty clay loam from the subsoil and a small amount of grayish-brown silt loam from the original surface layer.

This soil is highly susceptible to erosion because slopes are steep and runoff is very rapid. It is low in fertility and organic-matter content and is not suitable for cultivation. It is more suitable for woodland or use as wild-



Figure 9.—Excellent stand of alfalfa growing on Morley silty clay loam, 6 to 12 percent slopes, severely eroded, and on Pewamo silty clay loam in the depressions.

WETLAND ASSESSMENT

WinTR-55 Current Data Description

--- Identification Data ---

User: BH Date: 3/29/2016
Project: Windy Knoll Units: English
SubTitle: Offsite Tributary Areal Units: Acres
State: Indiana
County: Lake NOAA_B
Filename: <new file>

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Offsite Tr		Outlet	67	65	.754

Total area: 67 (ac)

--- Storm Data ---

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.0	3.7	4.23	4.83	5.35	5.83	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: NOAA_B
Dimensionless Unit Hydrograph: <standard>

BH

Windy Knoll
Offsite Tributary
Lake NOAA_B County, Indiana

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.0	3.7	4.23	4.83	5.35	5.83	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: NOAA_B
Dimensionless Unit Hydrograph: <standard>

BH

Windy Knoll
Offsite Tributary
Lake NOAA_B County, Indiana

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 100-Yr (cfs)

SUBAREAS	
Offsite Tr	91.95
REACHES	
OUTLET	91.95

BH

Windy Knoll
Offsite Tributary
Lake NOAA_B County, Indiana

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 100-Yr (cfs) (hr)
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SUBAREAS

Offsite Tr	91.95 12.55
------------	----------------

REACHES

OUTLET	91.95
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BH

Windy Knoll
Offsite Tributary
Lake NOAA_B County, Indiana

Structure Output Table

Reach Peak Flow (PF), Storage Volume (SV), Stage (STG)
Identifier by Rainfall Return Period
Structure
Identifier 100-Yr

BH

Windy Knoll
Offsite Tributary
Lake NOAA_B County, Indiana

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Offsite Tr	67.00	0.754	65	Outlet	

Total Area:	67 (ac)				

BH

Windy Knoll
Offsite Tributary
Lake NOAA_B County, Indiana

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
-----	-----	-----	-----	-----
Offsite Tr	Woods - grass combination	(fair) B	67	65
	Total Area / Weighted Curve Number		67	65
			==	==

BH

Windy Knoll
Offsite Tributary
Lake NOAA_B County, Indiana

Structure Description - User Entered

Reach Identifier	Surface Area @ Crest (ac)	Height Above Crest (ft)	Surface Area @ Ht Above (ac)	Pipe Diameter (in)	Head on Pipe (ft)	Weir Length (ft)
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BH

Windy Knoll
Offsite Tributary
Lake NOAA_B County, Indiana

Structure Rating Details = Computed

STORMWATER MODELS

C-B
4-15-16

APPLICATION NO. 299-6-16-I-IV

APPLICATION FOR PERMISSION TO PERFORM THE FOLLOWING TASK(S) WITHIN A
REGULATED DRAIN
[PLEASE CHECK THE APPROPRIATE BOX]

- I. WORK WITHIN A REGULATED DRAIN
- II. CONNECT/DISCHARGE INTO THE DRAIN/EASEMENT
- III. PLACE TEMPORARY/PERMANENT STRUCTURE IN THE DRAIN/EASEMENT
- IV. REDUCE EASEMENT FROM SEVENTY-FIVE (75) FEET

TO THE LAKE COUNTY DRAINAGE BOARD, LAKE COUNTY, INDIANA;

(Name) MARK AND TAMARA ANDERSON

HEREINAFTER CALLED APPLICANT, HEREBY MAKES APPLICATION TO THE LAKE COUNTY DRAINAGE BOARD TO PERFORM THE ABOVE DESCRIBED ACTIVITY WITHIN A REGULATED DRAIN AND/OR THE EASEMENT FOR A REGULATED DRAIN WHICH IS PART OF THE DRAINAGE SYSTEM FOR LAKE COUNTY, INDIANA.

THE LOCATION IS AS FOLLOWS:

NAME OF WATERWAY: STONEY RUN CREEK LATERAL B DRAIN

SECTION(S): _____ TOWNSHIP: WINFIELD RANGE: _____

ADDRESS OR DESCRIPTION OF LOCATION 13875 GRAND BLVD.

THE REQUEST IS TO CONSIST OF THE FOLLOWING ACTIVITIES:

BUILD POLE BARN, REDUCING EASEMENT
OF EXISTING DRAIN TO 30 FEET ON WEST
SIDE, INSTEAD OF 75 FEET

THE PURPOSE OF THE REQUEST IS TO:

PROVIDE STORAGE OF PERSONAL EQUIPMENT
AND VEHICLES

1. THE APPLICANT HEREBY AGREES TO RESTORE THE LAND, DRAINAGE DITCHES AND ALL OTHER SURFACES AND/OR STRUCTURES WITHIN THE DITCH AND REGULATED DRAIN EASEMENT TO A CONDITION AS GOOD OR BETTER THAN THEY WERE PRIOR TO THE COMMENCEMENT OF THE WORK.
2. THE APPLICANT SHALL AND WILL INDEMNIFY AND HOLD HARMLESS ANY AND ALL COUNTY ENTITIES, INCLUDING BUT NOT LIMITED TO THE COUNTY OF LAKE, BOARD OF COMMISSIONERS OF THE COUNTY OF LAKE, THE LAKE COUNTY DRAINAGE BOARD, LAKE COUNTY SURVEYOR, ITS ELECTED OFFICIALS, ITS APPOINTED OFFICIALS, ITS OFFICERS, ITS EMPLOYEES, ITS DEPARTMENTS, ITS BOARDS AND/OR AGENTS FROM AND AGAINST ANY AND ALL DAMAGES, INJURIES, LOSSES, DEMANDS, OR COSTS PROXIMATELY CAUSED BY THE FAULT, CULPABILITY OR NEGLIGENCE OF THE APPLICANT IN THE PERFORMANCE OF OR IN ANY WAY RELATED TO OR RESULTING FROM THE PERMITTED WORK OVER AND ACROSS THE DRAINS OR DRAINAGE RIGHTS-OF-WAY UNDER THE JURISDICTION OF THE LAKE COUNTY DRAINAGE BOARD.
3. **IMPORTANT CLAUSE IN THIS PERMIT APPLICATION:** THE APPLICANT FURTHER AGREES TO NOTIFY THE LAKE COUNTY DRAINAGE BOARD OR THE LAKE COUNTY SURVEYOR IN WRITING AT LEAST FIVE (5) DAYS IN ADVANCE OF THE COMMENCEMENT OF THE WORK DESCRIBED IN THIS APPLICATION, AND WILL ALSO GIVE NOTICE TO THE LAKE COUNTY DRAINAGE BOARD OR THE LAKE COUNTY SURVEYOR THE DAY PRECEDING THE COMPLETION OF THE WORK. FAILURE TO PROVIDE SUCH NOTICE MAY CAUSE REVOCATION OF THE PERMIT(S) AND APPLICANT MAY INCUR PENALTIES. PLEASE SEND NOTICES TO: LAKE COUNTY DRAINAGE BOARD, ATTN: LAKE COUNTY DRAINAGE BOARD SECRETARY, 2293 N. MAIN STREET, CROWN POINT, IN 46307
- 4(a). THE APPLICANT AGREES TO AVOID CAUSING DAMAGE TO THE ESTABLISHED REGULATED DRAIN OR TO LANDOWNERS AFFECTED BY THE DRAIN, PURSUANT TO I.C.36-9-27-72(D).
- 4(b). FOR APPLICATIONS REGARDING THE PLACEMENT OF TEMPORARY STRUCTURES IN THE DRAIN'S EASEMENT (BOX III, PAGE 1), SUCH AS FENCES, TREES, GARDENS, SHEDS, ETC., THE APPLICANT UNDERSTANDS THAT, IF THE DRAINAGE BOARD GRANTS PERMISSION TO PLACE SAID TEMPORARY STRUCTURES WITHIN THE DRAINAGE EASEMENT, SAID PLACEMENT IS AT THE OWNER'S RISK. SHOULD THE COUNTY SURVEYOR/DRAINAGE BOARD, THEIR AGENTS, REPRESENTATIVES, CONTRACTORS OR OTHERS AT THE DIRECTION OF SAID COUNTY SURVEYOR/DRAINAGE BOARD, NEED ACCESS TO THE DRAIN OR EASEMENT AND THE STRUCTURE REQUIRES REMOVAL, THE OWNER SHALL REMOVE SAME AT THE OWNER'S EXPENSE. SHOULD THE OWNER FAIL TO REMOVE SAME IN A TIMELY FASHION, THEN THE COUNTY SURVEYOR/DRAINAGE BOARD SHALL CAUSE SAME TO BE REMOVED AND THE OWNER SHALL HAVE NO RECOURSE. AFTER COMPLETION OF THE COUNTY SURVEYOR'S/DRAINAGE BOARD'S ACTIVITY, THE OWNER SHALL HAVE THE RIGHT TO REINSTALL THE TEMPORARY STRUCTURE IN COMPLIANCE WITH THE COUNTY SURVEYOR'S/DRAINAGE BOARD'S REQUIREMENTS. THE COUNTY SURVEYOR/DRAINAGE BOARD MAY REQUIRE PAYMENT FROM THE OWNER FOR THE COST OF THE REMOVAL OR REPLACEMENT FOR ANY OF SAID ITEMS, PURSUANT TO STATUTE.
5. THE APPLICANT SHALL HAVE WORKMAN'S COMPENSATION INSURANCE AS REQUIRED BY STATE LAW.
6. THE APPLICANT SHALL PAY THE LAKE COUNTY SURVEYOR'S OFFICE AN APPLICATION FEE(S) PRIOR TO THE APPLICATION BEING CONSIDERED AT THE NEXT MONTHLY LAKE COUNTY DRAINAGE BOARD MEETING.
7. THE APPLICANT SHALL CARRY PUBLIC LIABILITY INSURANCE MEETING THE MAXIMUM DOLLAR LIMITS AS SPECIFIED IN I.C. 34-13-3-1 ET SEQ. OR ANY SUBSEQUENTLY ENACTED APPLICABLE STATUTES, AND SHALL LIST THE COUNTY OF LAKE, THE BOARD OF COMMISSIONERS OF THE COUNTY OF LAKE, THE LAKE COUNTY DRAINAGE BOARD, LAKE COUNTY SURVEYOR, ITS ELECTED OFFICIALS, ITS APPOINTED OFFICIALS, ITS OFFICERS, ITS EMPLOYEES, ITS DEPARTMENTS, ITS BOARDS AND AGENTS AS OTHER INSURED.
8. **THIS PERMIT DOES NOT OBTAIN THE NEED TO OBTAIN ANY OTHER FEDERAL, STATE AND/OR LOCAL AUTHORIZATION, IF REQUIRED.**

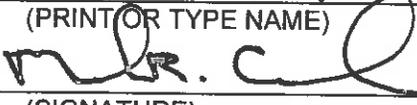
9 BY SUBMITTING THIS APPLICATION, THE APPLICANT HEREBY STATES THE FOLLOWING:

- A. THE PROPOSED WORK MEETS ALL HYDRAULIC REQUIREMENTS THAT WILL PERMIT THE DRAIN TO FUNCTION PROPERLY. (I.C. 36-9-37-72 (C)).
- B. THE REGULATED DRAIN IS ADEQUATE TO HANDLE THE ADDITIONAL FLOW OF WATER, IF ANY
- C. NO HARMFUL POLLUTION IS LIKELY TO RESULT. (I.C. 36-9-27-17(C)).

10. ENGINEERING PLANS, WHICH SUBSTANTIATE THE ABOVE STATEMENTS, MUST ACCOMPANY THIS APPLICATION. THESE PLANS MUST INCLUDE SUFFICIENT DETAIL TO ALLOW VERIFICATION OF THE ABOVE STATEMENTS. (THESE PLANS SHOULD GENERALLY INCLUDE DIMENSIONS, ELEVATIONS, CALCULATIONS, DESCRIPTIONS OR THE QUANTITIES AND TYPES OF MATERIAL TO BE USED, DISCHARGE CALCULATIONS AND OTHER RELEVANT INFORMATION.)

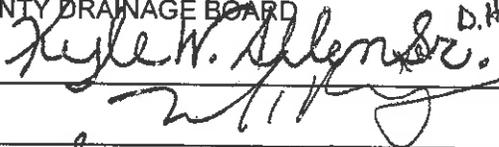
11. UPON COMPLETION OF THE WORK, "AS BUILT PLANS", SIGNED AND SEALED BY AN INDIANA REGISTERED PROFESSIONAL ENGINEER, SHALL BE FORWARDED TO THE LAKE COUNTY DRAINAGE BOARD WITHIN 30 DAYS.

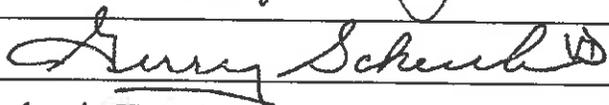
12. THE DRAINAGE BOARD RESERVES THE RIGHT TO WAIVE ANY OF THE REQUIREMENTS STATED HEREON.

SUBMITTED: MARK R. ANDERSON DATE: 6-10-16
 (PRINT OR TYPE NAME)

 (SIGNATURE)

SUBMITTED FOR: _____
 ADDRESS 13875 GRAND BLVD.
CROWN POINT, IN 46307
 PHONE#: 219/776-5340

(THIS SECTION FOR DRAINAGE BOARD USE ONLY)

LAKE COUNTY DRAINAGE BOARD
 D.H.



DATE: 6-15-16 APPROVED: DENIED: _____

SHOULD ANY APPLICATIONS BE SUBMITTED BY AN AGENT, CONSULTANT, ENGINEER, REPRESENTATIVE OR OTHERS PURPORTING TO ACT AS THE OWNER, THEN A POWER OF ATTORNEY SHALL BE DULY EXECUTED AND ATTACHED TO THESE APPLICATIONS. [SEE ATTACHMENT I]

APPROVAL SHALL BE VALID FOR A PERIOD OF TWO YEARS FROM THE DATE OF APPROVAL. SHOULD THE WORK AND ALL RELATED ACTIVITIES NOT BE COMPLETED BY THAT TIME, PETITIONER IS REQUIRED TO REAPPLY. SHOULD THE SCOPE OF WORK, PLANS AND SPECIFICATIONS, OR ACTIVITIES LISTED HEREIN BE MODIFIED, PETITIONER MUST NOTIFY THE LAKE COUNTY SURVEYOR AND THE DRAINAGE BOARD OF THESE MODIFICATIONS FOR REVIEW AND/OR APPROVAL/DENIAL BY THE COUNTY SURVEYOR/DRAINAGE BOARD.

APPLICATION NO. _____ (W)

APPLICATION
FOR
WAIVER OF EASEMENT
(EASEMENT REDUCTION)

The STONEY RUN CREEK Ditch or Creek which traverses through Section _____,
LATERAL B DRAIN
Township _____, Range _____, west of the 2nd P.M. _____
and/or _____, as marked and laid down on the recorded plat as the same appears
of record in Plat Book _____ Page _____ in the Recorder's Office of Lake County, Indiana, is a
regulated drain under the terms of the Indiana Drainage Code of 1965 as amended, and as such is
subject to a maintenance easement parallel to the drain and extending either 75 feet from the top of each
bank of an open drain or 75 feet, from the centerline on each side of a tiled drain. In consideration for
the reduction of this easement by the Lake County Surveyor/Lake County Drainage Board to ^{M.A.} 30 feet
from the top of the bank on the _____ side of the open drain or to 30 feet from the centerline of
the WEST side of the tiled drain as established per drawings of _____,
Indiana Registered Land Surveyor Number _____, dated this _____ day of
_____, 20____, as per plat of survey which is attached hereto and made a part hereof,
and labeled Exhibit "A", the undersigned hereby covenant that any damage occasioned by maintenance
or reconstruction of the regulated drain to structures, yards, shrubbery, improvements, fences,
outbuildings and the like, whether within or without the reduced easement, shall be at the risk of
Petitioners, their successors and assigns and not the Lake County Drainage Board, its successors,
assigns, agents or employees. This covenant shall not effect damage occurring beyond the 75-foot
statutory easement. In the event that the reduced easement is not sufficient for any spoil occasioned by
maintenance of reconstruction of the ditch, the same shall be removed in the most economical way
possible and any resulting additional costs shall be the responsibility of the Petitioners.

In the event that construction, maintenance or repair of the improvements as set forth in Exhibit
"A" causes or shall cause in the future any damage to the established regulated drain or necessitates

increased maintenance thereof, Petitioner, its successors or assigns will reimburse the Lake County Drainage Board for any such expenses incurred.

In addition, the Lake County Drainage Board may exercise an option that would require the owner of the land, occupied by a regulated drain, to perform maintenance on the drain in perpetuity. The option, if exercised, shall be a covenant on, and run with the property—see attached "Perpetual Agreement". Further, it shall be signed, sealed, notarized and recorded in the Lake County Recorder's Office with a copy of said recording furnished to the Lake County Surveyor's Office for its permanent record.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals this 15th ~~10th~~ ^{month} day of JUNE, 2016.

PETITIONERS


Signature

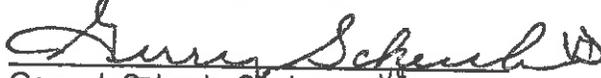
MARK R. ANDERSON
Printed Name

13875 GRAND BLVD.
Address

LAKE COUNTY SURVEYOR


Bill Emerson, Jr.

LAKE COUNTY DRAINAGE BOARD OF
LAKE COUNTY, INDIANA


Gerry J. Scheub, Chairman X^b


Michael O. Repay, Member D.#


Kyle W. Allen Sr., Member

ATTEST:


Mary Ellen Kupsik, Secretary of the
Lake County Drainage Board

DATE: _____
FEE: \$ 200 _____
RECEIPT #: _____

TO: LAKE COUNTY BOARD OF ZONING APPEALS, 2293 N. MAIN STREET, CROWN POINT, IN 46307



APPLICATION FOR VARIANCE FROM DEVELOPMENT STANDARDS

NOTE TO APPLICANT: PLEASE READ THE FOLLOWING LAW CAREFULLY - IC 36-7-4-918.5.
A Board of Zoning Appeals shall approve or deny Variances from Development Standards (such as height, bulk, or area) upon a determination in writing that: (1) The approval will not be injurious to the public health, safety, morals and general welfare of the community, (2) The use and value of the area adjacent to the property included in the Variance will not be affected in a substantially adverse manner, and (3) The strict application of the terms of the Zoning Ordinance will result in practical difficulties in the use of the property. However, the Zoning Ordinance may establish a stricter standard than the "practical difficulties" standard prescribed by this paragraph. (IC 36-7-4-918.5 as added by P.L. 357-1983 & 14).
IT SHALL BE THE RESPONSIBILITY OF THE PETITIONER TO PROVE THEIR REQUEST WILL NOT BE CONTRARY TO ANY PROVISION OF IC 36-7-4-918.5.

APPLICATION FILED AND PLANS RECEIVED: _____

WAS A ZONING OR BUILDING PERMIT DENIED? _____ IF YES WHY? _____

VARIANCE REQUESTED: VARIANCE OF DEVELOPMENT STANDARDS FROM THE UNINCORPORATED LAKE COUNTY ZONING ORDINANCE, SECTION 8.3 (B) Acc. Bldg. 222

HEIGHT OF BUILDING:
1ST FT _____ IN _____
2ND FT _____ IN _____
3RD FT _____ IN _____
4TH FT _____ IN _____

16-foot permitted

FOR THE PURPOSE OF: _____

CURRENT ZONING: A-1 AREA OF GROUND: 5 ac

PETITIONER: MARCO TAMARA ANDERSON OWNER: _____

ADDRESS: 13975 GRAND BLVD ADDRESS: _____

CROWN POINT, IN 46307

PHONE: 219/776-5340 PHONE: _____

BEING DULY SWORN UPON _____ OATH, DO HEREBY DECLARE THAT THE FACTS AND FIGURES SET FORTH IN THE ABOVE PETITION ARE TRUE TO _____ INFORMATION AND BELIEF, AND THAT _____ (AM, ARE) SUBMITTING SUCH FACTS AND FIGURES TO THE LAKE COUNTY BOARD OF ZONING APPEALS FOR THE PURPOSE OF THIS REQUEST FOR THE ABOVE DESCRIBED REAL ESTATE.

SIGNATURE(S) OF PETITIONER(S) _____ SIGNATURE(S) OF OWNER(S) _____

A LIST OF NAMES AND ADDRESSES (CERTIFIED BY TITLE COMPANY, TOWNSHIP TAX ASSESSOR, OR COUNTY AUDITOR) MUST BE FURNISHED. THIS LIST MUST INCLUDE ALL OWNERS OF LAND IMMEDIATELY ADJACENT TO OR ACROSS ANY PUBLIC STREET OR ALLEY FROM SAID PROPERTY AND OTHER PROPERTY OWNERS THE BOARD DETERMINES WILL BE AFFECTED. ALSO, A COMPLETE LEGAL DESCRIPTION MUST BE ATTACHED.

STATE OF INDIANA, COUNTY OF LAKE) SS:
Before me, a Notary Public in and for said county and state, personally appeared the above petitioner(s) and owners(s) and acknowledged the execution of the above and foregoing instrument to be _____ voluntary act and deed for the uses and purposes therein mentioned.

Dated this _____ day of _____, 20____.

MY COMMISSION EXPIRES: _____ NOTARY PUBLIC _____



TO: LAKE COUNTY BOARD OF ZONING APPEALS, 2293 N. MAIN STREET, CROWN POINT, IN 46307

APPLICATION FOR VARIANCE FROM DEVELOPMENT STANDARDS

NOTE TO APPLICANT: PLEASE READ THE FOLLOWING LAW CAREFULLY - IC 36-7-4-918.5:

A Board of Zoning Appeals shall approve or deny Variances from Development Standards (such as height, bulk, or area) upon a determination in writing that: (1) The approval will not be injurious to the public health, safety, morals and general welfare of the community, (2) The use and value of the area adjacent to the property included in the Variance will not be affected in a substantially adverse manner, and (3) The strict application of the terms of the Zoning Ordinance will result in practical difficulties in the use of the property. However, the Zoning Ordinance may establish a stricter standard that the "practical difficulties" standard prescribed by this paragraph. (IC 36-7-4-918.5 as added by P.L. 357-1983 & 14). IT SHALL BE THE RESPONSIBILITY OF THE PETITIONER TO PROVE THEIR REQUEST WILL NOT BE CONTRARY TO ANY PROVISION OF IC 36-7-4-918.5.

APPLICATION FILED AND PLANS RECEIVED: _____

WAS A ZONING OR BUILDING PERMIT DENIED? _____ IF YES WHY? _____

VARIANCE REQUESTED: VARIANCE OF DEVELOPMENT STANDARDS FROM THE UNINCORPORATED LAKE COUNTY ZONING ORDINANCE, SECTION 9.3(3)(1) Acc. Wkg. Size

1,590 sq ft permitted

HEIGHT OF BUILDING
1ST FT IN _____
2ND FT IN _____
3RD FT IN _____
4TH FT IN _____
5TH FT IN _____

FOR THE PURPOSE OF: _____

CURRENT ZONING: A-1 AREA OF GROUND: 5ac

PETITIONER: MARK & TAMARA ANDERSON OWNER: MARK & TAMARA ANDERSON

ADDRESS: 13875 Grand Blvd ADDRESS: 13875 GRAND BLVD

Crown Point, IN 46307 CROWN POINT, IN 46307

PHONE: 219/776-5340 PHONE: _____

BEING DULY SWORN UPON _____ OATH, DO HEREBY DECLARE THAT THE FACTS AND FIGURES SET FORTH IN THE ABOVE PETITION ARE TRUE TO _____ INFORMATION AND BELIEF, AND THAT _____ (AM, ARE) SUBMITTING SUCH FACTS AND FIGURES TO THE LAKE COUNTY BOARD OF ZONING APPEALS FOR THE PURPOSE OF THIS REQUEST FOR THE ABOVE DESCRIBED REAL ESTATE.

SIGNATURE(S) OF PETITIONER(S) SIGNATURE(S) OF OWNER(S)

A LIST OF NAMES AND ADDRESSES (CERTIFIED BY TITLE COMPANY, TOWNSHIP TAX ASSESSOR, OR COUNTY AUDITOR) MUST BE FURNISHED. THIS LIST MUST INCLUDE ALL OWNERS OF LAND IMMEDIATELY ADJACENT TO OR ACROSS ANY PUBLIC STREET OR ALLEY FROM SAID PROPERTY AND OTHER PROPERTY OWNERS THE BOARD DETERMINES WILL BE AFFECTED. ALSO, A COMPLETE LEGAL DESCRIPTION MUST BE ATTACHED.

STATE OF INDIANA, COUNTY OF LAKE) SS:
Before me, a Notary Public in and for said county and state, personally appeared the above petitioner(s) and owners(s) and acknowledged the execution of the above and foregoing instrument to be _____ voluntary act and deed for the uses and purposes therein mentioned.

Dated this _____ day of _____, 20____.

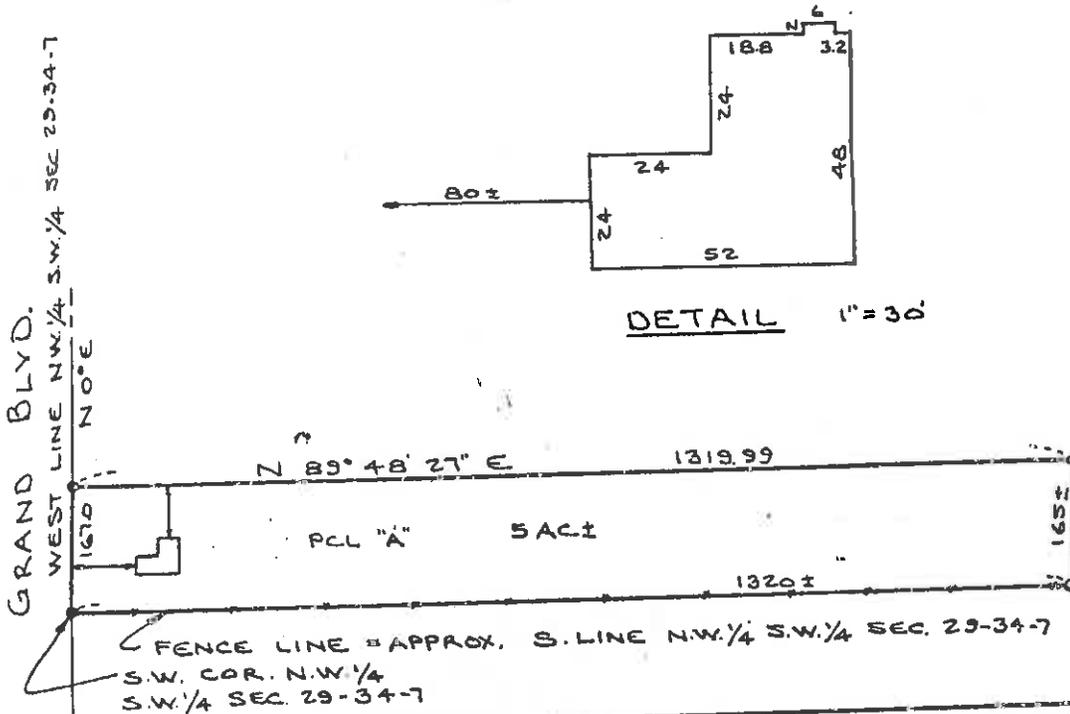
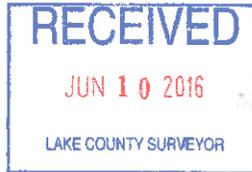
MY COMMISSION EXPIRES: _____ NOTARY PUBLIC

SURVEYOR LOCATION REPORT

LEGAL DESCRIPTION:

A parcel of land in the S.W. $\frac{1}{4}$ of Section 29, Township 34 North, Range 7 West of the 2nd P.M. in Winfield Township, Lake County, Indiana described as follows: Beginning at the S.W. corner of the N.W. $\frac{1}{4}$ of the S.W. $\frac{1}{4}$ of said Section 29; thence N 0° E along the West line of said N.W. $\frac{1}{4}$; 167.00 feet; thence N 89°48'27" E, 1319.00 feet; thence Southerly 165 feet, more or less, to the S.E. corner of said N.W. $\frac{1}{4}$; thence Westerly along the South line of said N.W. $\frac{1}{4}$; 1320 feet, more or less, to the Point of Beginning. Containing 5.0 Acres, more or less, and subject to all Legal Highways and Easements.

ORDERED BY: Stephen J. Tokar, III



I, the undersigned, an Indiana Registered Land Surveyor, hereby certify that on the date shown, I supervised the inspection of the real estate described herein at the Address indicated. THIS LOCATION REPORT WAS PREPARED FOR USE BY THE DESIGNATED PARTIES ONLY AND FOR NO OTHER USE. THE ACCURACY OF THE LOCATION DATA SHOWN IS LIMITED TO THAT REQUIRED BY THE INDIANA "SURVEYOR LOCATION REPORT" MINIMUM REQUIREMENTS UNLESS OTHERWISE SPECIFIED AND EXPLAINED ON THIS DOCUMENT. IF A MORE ACCURATE OR DETAILED LAND SURVEY IS DESIRED OR IF CORNER MONUMENTS ARE REQUIRED, AN INDIANA LAND TITLE SURVEY SHOULD BE ORDERED.

I further certify that to the best of my knowledge this Location Report conforms with the SURVEYOR LOCATION REPORT Minimum Requirements, as adopted by the Indiana Society of Professional Land Surveyors, Inc., on January 29, 1981, and approved by the Title Underwriters of Indiana, Inc., on March 20, 1981.

BENGEL ENGINEERING & SURVEYING

**PROFESSIONAL ENGINEERS
PROFESSIONAL LAND SURVEYORS**

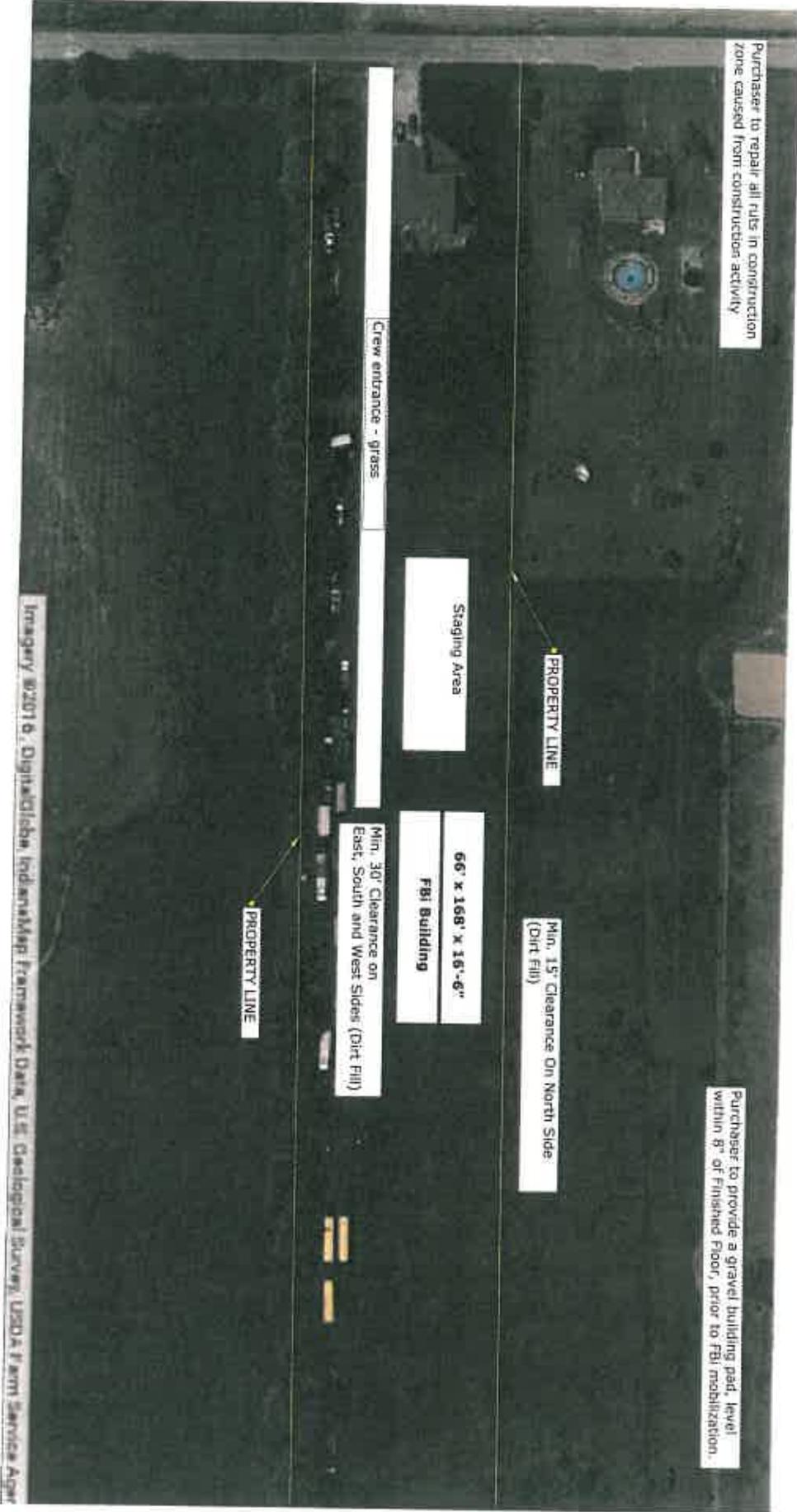
703 DIVISION ROAD
VALPARAISO, INDIANA 46383
(219) 462-0690

E. DONALD BENGEL
INDIANA REG. LAND SURVEYOR NO. 12280
INDIANA REG. PROF. ENGINEER NO. 18078

SCALE: 1" = 200' FLD. BK. 73 p. 65
JOB No. 90-187 PLAT No. LAKE
2957

Purchaser to repair all ruts in construction zone caused from construction activity.

Purchaser to provide a gravel building pad, level within 8" of finished floor, prior to FBI mobilization.



Imagery ©2016, DigitalGlobe, Indianapolis, Framework Data, U.S. Geological Survey, USDA Farm Service Agr

RECEIVED
JUN 10 2016
LAKE COUNTY SURVEYOR



S-101

Date : 05/23/16
Name: KWW

FBI
FBI Buildings, Inc.
3823 W 1800 S
Remington, IN 47977
219-261-2157

Mr. Mark Anderson
13875 Grand Blvd.
Crown Point, IN 46307

Site Plan

X: Purchaser Approval Date _____

X: Seller Approval Date _____

Drawing # _____

PRELIMINARY
THESE DRAWINGS
ARE FOR
REVIEW
ONLY



Bill Emerson, Jr.
County Surveyor

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

ADDENDUM NO. 2

2016 Singleton Ditch Phase III Maintenance - Monon Road to Mississippi Street

Questions Received:

1. Tree removal station callout does not match the station it is drawn to on Sheet 2 of the plans. Which is correct?
2. Tree and Debris Removal pay item for dragline access does not make sense. The plans only show tree and debris removal on Sheets 2 and 3, however there appears to be significantly more tree and debris removal required. Please clarify.

Responses to Questions:

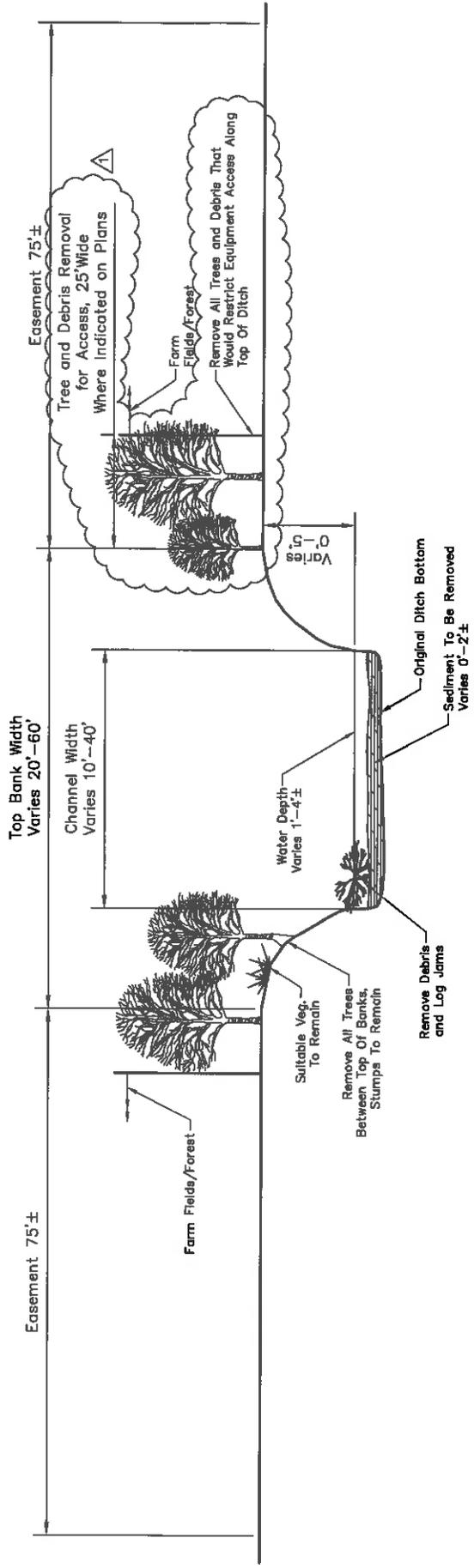
1. The note "Begin 25' Wide Tree Removal" on Sheet 2 of the plans has an incorrect beginning station. The actual beginning station for tree removal is 293+50. The denoted area on the plans is drawn correctly. The ending station on Sheet 3 is correct.
2. The second paragraph under Description for Section 3.6 - Tree and Debris Removal on Page 12 of the specifications shall be deleted and replaced with the following paragraphs:

The scope of this work covers tree and debris removal for the entire project which includes two distinct areas: 1) area between the tops of banks and 2) the 25-foot wide area designated on the plans.

Tree and debris removal between the tops of banks is required wherever needed for the entire project length based on the description provided in the first paragraph under Description for Section 3.6. Limits are not specifically designated on the plans.

Tree and debris removal for a 25-foot wide section outside the top of bank on one side of the ditch shall be completed where indicated on the plans. The station limits of this work are indicated on the plans, however it is up to the contractor to select the preferred side. If Contractor believes there are additional station limits for which tree removal outside the top of bank is needed for access, that work shall also be included under this pay item. Sheet 9 has been updated to reflect this clarification and is attached to this addendum.

END OF ADDENDUM



REVISION SCHEDULE	
NO.	DESCRIPTION
1	DATE 6/14/2016
2	NOTE CLARIFICATION

AMERICAN STRUCTUREPOINT
INC.

TYPICAL DITCH CROSS SECTION
SINGLETON DITCH

Lake County Surveyor
1100 East Monitor Street
Crown Point, Indiana 46307

Lake County
Singleton Ditch Maintenance Phase III
Monon Road to Mississippi Street

Date: 06/14/2016

POTENTIAL BIDDERS
2016 SINGLETON DITCH MAINTENANCE
MONON ROAD-MISSISSIPPI STREET
CEDAR CREEK TWP., LAKE COUNTY, IN

DELTA III
2063 W. 1250 S
Hanna, IN 46340

\$ 209,099.00

R.A. OROS
8244 Greenwood Avenue
Munster, IN 46321

\$ 250,762.00

GARIUP CONSTRUCTION CO.
24121 Whitcomb Street
Lowell, IN 46356

\$ _____

GOUGH, INC.
2200 E. 88th Drive
Merrillville, IN 46410

\$ _____

Handout 10-B-1
6-15-16



Bill Emerson, Jr.
County Surveyor

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

ADDENDUM NO. 2

2016 Singleton Ditch Phase III Maintenance - Monon Road to Mississippi Street

Questions Received:

1. Tree removal station callout does not match the station it is drawn to on Sheet 2 of the plans. Which is correct?
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Responses to Questions:

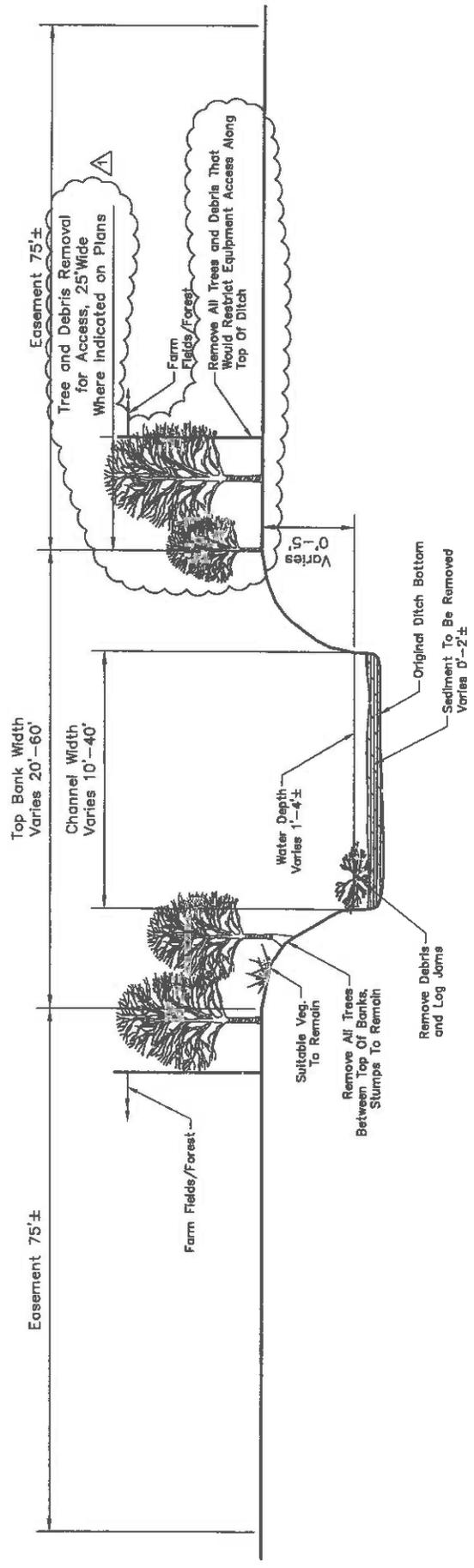
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The scope of this work covers tree and debris removal for the entire project which includes two distinct areas: 1) area between the tops of banks and 2) the 25-foot wide area designated on the plans.

Tree and debris removal between the tops of banks is required wherever needed for the entire project length based on the description provided in the first paragraph under Description for Section 3.6. Limits are not specifically designated on the plans.

Tree and debris removal for a 25-foot wide section outside the top of bank on one side of the ditch shall be completed where indicated on the plans. The station limits of this work are indicated on the plans, however it is up to the contractor to select the preferred side. If Contractor believes there are additional station limits for which tree removal outside the top of bank is needed for access, that work shall also be included under this pay item. Sheet 9 has been updated to reflect this clarification and is attached to this addendum.

END OF ADDENDUM



REVISION SCHEDULE		
NO.	DESCRIPTION	DATE
1	NOTE CLARIFICATION	9/14/2016

AMERICAN STRUCTUREPOINT INC.

Lake County Surveyor
1100 East Monitor Street
Crown Point, Indiana 46307

TYPICAL DITCH CROSS SECTION
SINGLETON DITCH

Lake County
Singleton Ditch Maintenance Phase III
Monon Road to Mississippi Street

Date: 09/14/2016 **Sheet 9**



Bill Emerson, Jr.
County Surveyor

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

ADDENDUM NO. 1

2016 Singleton Ditch Phase III Maintenance - Monon Road to Mississippi Street

Questions Received:

1. Can a copy of the Lake County ditch maintenance Contract be provided?
2. Can filter tube be used in lieu of silt fence?

Responses to Questions:

1. The standard Lake County Contract is attached to this Addendum.
2. A filter tube is a wood-filled tubular sock used as an alternative to silt fence. The Indiana Department of Environmental Management considers this as a feasible alternative to silt fence in some cases. The filter tube must be installed in accordance with manufacturer's instructions.

Specifications from the Lake County Stormwater Ordinance are included.

3. Please remove the original bid sheet and replace with the revised bid sheet that is attached with this addendum.



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

CONTRACT# _____

PROJECT NAME: _____

This CONTRACT is made and entered into this _____th day of MONTH, 2015 by and between _____, a(n) INDIANA Corporation hereinafter referred to as the "Contractor" and the Lake County Drainage Board, hereinafter referred to as the "Board".

NOW, THEREFORE, in consideration of the mutual promises contained herein, the Board and the Contractor do hereby mutually agree as follows:

I. SCOPE OF WORK

The Contractor shall provide the project services as described herein in Attachment A; in the approved plans and specifications, and any modifications or addenda thereof, which are attached hereto or otherwise incorporated herein by reference; in the terms contained in any permits obtained or not yet approved and any monies to be received from contributing municipalities; and in the Contractor's bid/response and any supplemental responses, and subsequent negotiations arising therefrom, all of which is incorporated herein by reference. Where there is an inconsistency between these terms, the term that is most beneficial to the Board shall control.

The Contractor shall perform the work covered by this Contract under the supervision of the Lake County Surveyor and/or its designee.

The Contractor shall comply with all plans, specifications, terms and conditions of this Contract. Deviation from said plans, specifications, terms or conditions shall be a basis for an immediate cease and desist notice of said unauthorized activity by the Board or the Lake County Surveyor's Office and, where appropriate as determined by the Board or the Lake County Surveyor's Office, cease and desist of contract activity until further action taken by the Board at its next public meeting.

The scope of work occurs on private property and/or within and upon a regulated drain and its easement as authorized by statute. The Contractor has the authority to keep unauthorized persons from the job site in order to avoid any potential liability arising therefrom. Should such persons fail to leave said site, the Contractor is to immediately contact the Lake County Surveyor's office, who may contact the Lake County Sheriff to maintain a safe work site and limit any liability of Lake County or the Contractor for any alleged claims or damages.

Soil Conditions

The Contractor agrees to accept full responsibility for its conclusions relative to the nature and probable difficulties of the work due to underground structures and soil conditions.

The results of subsurface soil investigations shown on the drawings or given in the specifications are for general information only. Neither the Lake County Drainage Board nor the engineer guarantees that materials other than those given in this information will not be encountered or that the proportions of the various materials will not vary from the information indicated on the plans or given in the specifications.

The Contractor shall be responsible for making its own subsurface soil investigations and shall make its own determinations from the investigations. The Contractor waives all claims for damages which it may suffer by reason of the inadequacies or discrepancies of the underground information shown on the plans or provided in the specifications. No compensation will be paid to the Contractor due to inadequacies or discrepancies in subsurface data furnished by Lake County Drainage Board or by the engineer.

Materials

No materials of any kind shall be used until they have been examined by the Lake County Surveyor or his engineer or other person authorized by the Lake County Surveyor, who shall have full power to condemn any work or materials not in accordance with these specifications, and to require the Contractor to remove any work or materials so condemned, and at the contractor's own expense to replace such condemned work or materials to the Lake County Surveyor or his engineer's satisfaction. The decision of the Lake County Surveyor or his engineer shall be final as to quality of workmanship and materials.

Clean up

During the time that the work is in progress the Contractor shall make every effort to maintain the site in a neat and orderly condition. All refuse, broken pipe, excess fill material, cribbing, etc., shall be removed as soon as practicable. Should the work not be maintained in a satisfactory condition the Lake County Surveyor or his engineer, or other person authorized by the Lake County Surveyor may cause the work to stop until the "clean-up" portion of the work has been done to the satisfaction of the Lake County Surveyor and/or its engineer.

The work will not be considered complete and the final payment certificate issued until all rubbish, unused material or equipment due to or connected with it shall have been removed and the premises left in a condition satisfactory to the Lake County Surveyor and/or its engineer.

II. PAYMENT OF SERVICE

- a. For the services rendered by the Contractor, the Board shall pay to the Contractor the sum of _____ (\$ _____), payable in accordance with the attached "Schedule of Payments".
- b. No payment under paragraph (a) above shall be made until:
 - (1) The Lake County Surveyor has filed with the Board a written report approving the work performed by Contractor as required under this contract.
 - (2) The Contractor shall have filed with the Board a waiver of lien and verified statement that all expenses incurred for labor, material, and suppliers have been paid in full.
- c. Billing for the services rendered under this contract shall be in the form and manner prescribed by the State of Indiana and the Board.

- d. Approval of payment claims shall be made at a regular Board Meeting. Should there be a dispute regarding any invoice or payment thereof, the party raising the dispute shall notify the other party upon discovery thereof. Payment of any invoice shall not be a waiver of any right associated with a dispute with the invoice or payment, and any future payment may be modified accordingly to rectify any discovered discrepancy.
- e. Fifteen percent (15%) of the contract price shall be withheld by the Board for a period of 60 days after completion of the work and its acceptance by the Lake County Surveyor for the purpose of securing payment of suppliers, laborers, and subcontractors, if any. However, if the Contractor files waivers of lien from all subcontractors, suppliers and laborers of this project, the 15% retainage may be paid along with the final payment under this contract.
- f. The sources of funds for payment under this Contract is the Lake County Drainage Board and/or such other applicable and appropriate sources of funds as apply to the scope of work to be performed on behalf of the approved budget for this specific project, and more specifically the line item therein for the payment of these services. By execution of this Contract the Lake County Drainage Board or Lake County is not agreeing to use funds other than the funds in the budget for the purposes enunciated herein. The sources are restricted to those funds which have been appropriated for this purpose by the Lake County Council as applicable and approved by the Department of Local Government Finance, the State Board of Accounts and/or State Board of Tax Commissioners, as applicable. In this regard this Contract may be terminated, in whole or in part, when the Lake County Auditor makes a written determination that the funds are not appropriated or otherwise available to support continuation of performance. Such determination shall be final and conclusive. Notice shall be given to the Contractor as soon as the Board is aware of such a situation. However, the Board will make good faith efforts to provide funding for this Contract, and if such funding is available and appropriated, the Board shall fulfill its financial obligation, subject to all terms and conditions herein.

III. SUBLETTING AND ASSIGNMENT OF CONTRACT

No portion of the Contract shall be sublet, assigned or otherwise disposed of, except with the written consent of the Board. Consent to sublet, assign, or otherwise dispose of any portion of the Contract shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the Contract.

IV. SUCCESSORS AND ASSIGNEES

The Contractor binds its successors, executors, administrators and assignees to all covenants of this Contract. The Contractor shall not assign, sublet or transfer its interest in this Contract without the prior written consent of the Board, except as above set forth.

V. TERM OF CONTRACT

Time is of the essence. The Contractor shall complete the work under and pursuant to this Contract within 180 days, including Saturdays, Sundays, and holidays. Should the Contractor fail to do so, the Lake County Drainage Board is entitled to and may retain, from compensation otherwise to be paid, or may otherwise pursue payment thereof, One Hundred Dollars (\$100.00) for each day, Sundays and holidays not included, that the work remains uncompleted beyond

the specified period, which sum is agreed on as the proper measure of liquidated damages that Board will sustain by the failure of contractor to complete the work in the time stipulated, and this sum is not to be construed in any sense as a penalty.

When good cause for a delay in the work is shown by the Contractor, the Lake County Surveyor shall determine the seriousness of the delay and extend the time of completion of the work accordingly and in his sole discretion. Such good cause may include, but is not limited to, changes in the work, strikes, lockouts, or other labor disputes; fire, earthquake, or other natural disasters; unavoidable casualty or damage to personnel, materials, or equipment; delay in receiving materials or equipment; acts or neglect of the Board, the Board's representative, or an employee of either; acts or neglect of another Contractor employed by the Board, or any other person not directly responsible to Contractor; or other such similar cause beyond the control of the Contractor.

Any claim by Contractor for an extension of time must be made in writing to the Lake County Surveyor not more than one (1) day following the development of the cause for delay. However, in the case of a continuing cause of delay, only one claim need be made. Whenever the Lake County Surveyor or its representative in his or her own discretion determines that circumstances warrant an extension of time, he or she may grant such an extension until a claim of delay has been submitted by the Contractor.

VI. CHOICE OF LAW

This Contract shall be construed in accordance with and governed by the laws of the State of Indiana and suit, if any must be brought in Lake County, State of Indiana.

VII. INSURANCE/SECURITY/INDEMNITY

The Contractor shall carry or require that there be carried Workmen's Compensation Insurance for all its employees and those of its subcontractors in accordance with state or territorial Workmen's Compensation laws.

The Contractor shall carry or require that there be carried public liability and property damage insurance in amounts as outlined in IC 34-4-16.5-1 et. seq. to protect the Board and County, the Contractor and its subcontractors from claims which may arise from work under this Contract. The Board shall be named as an additional insured and be fully protected thereunder.

All insurance as required herein shall be effective for acts occurring during and shall be maintained during the entire life of this Contract.

The Contractor shall maintain during the term of the Contract a performance bond, payable to the Lake County Drainage Board, providing security for the Contractor's performance obligations in the amount of the Contract. Said bond may be reduced to an amount not less than the amount of the remaining item costs in said Contract.

The Contractor agrees to indemnify and hold harmless Lake County, the Lake County Drainage Board, the Lake County Surveyor, its officials, its departments, its boards, its employees, and its agents and assigns against all actions, claims or demands for damages of any kind whatsoever, known or unknown, which may in any way be caused by the negligent acts of the Contractor, including but not limited to the negligent digging up of streets, alleys or public grounds, and by

improper care of trees and shrubbery, or which may result from the default, carelessness or negligence of the Contractor, its agents, employees or workers under its control or direction in the performance of the work described herein, and shall refund and reimburse to the Lake County Drainage Board all sums which it may be obligated or adjudged to pay on any such claims or demands immediately upon such determination.

VIII. REMEDIES UPON DEFAULT

If either party of this Contract shall be in default of any of the terms and conditions hereof, the party complaining of the default shall notify the defaulting party in writing of the default complained of, and the defaulting party shall have ten (10) days from the date of receipt of said written notification in which to cure the default complained of therein. Only after the expiration of the ten (10) day period described herein may the parties resort to legal proceedings to enforce any of the terms and conditions of this Contract or to collect damages in a court of competent jurisdiction.

Should the Contractor be cited on three or more occasions by the Lake County Surveyor or Contract Engineer on the project, the Contract is subject to termination for cause, as determined by the Board at a public meeting.

IX. EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION

The Contractor agrees by the execution of this contract that in regards to its operations:

- a. No person shall, on the grounds of race, color, national origin or sex, be excluded from participation or be denied the benefits thereof, or be subject to discrimination.
- b. The principals of equal opportunity in employment and delivery of services are applicable and the contractor commits to a policy and practice of nondiscrimination and affirmative action based upon age, military service, ancestry, color, national origin, physical handicap, political affiliation, race, religion and sex.
- c. The provisions of the Affirmative Action Program adopted by the Board of Commissioners of the County of Lake on May 31, 1977, as applicable, are incorporated by reference as part of this Contract.
- d. The provisions of all Federal Civil Rights laws and the Indiana Civil rights laws as applicable are incorporated by reference as part of this Contract.
- e. Breach of any of the equal opportunity and/or the nondiscrimination provisions of the Contract may be regarded as a material breach of the Contract.
- f. Where applicable, nondiscriminatory clauses and affirmative action clauses shall be made a part of any agreement, contract or lease between Contractor and any organization, corporation, subcontractor or other legal entity that benefits from the funds paid to contractor by this Contract.

X. LIMITATION OF AUTHORITY

The Contractor has no authority to obligate the Board on any contract or agreement of any kind, character or nature, nor for any expense, except as otherwise delineated in this Contract.

XI. PERSONNEL/INDEPENDENT CONTRACTOR

The Contractor represents that he has, or will secure at his own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the

Board. All of the services required hereunder will be performed by the Contractor or under his supervision, and all personnel engaged in the work shall be fully qualified to perform such services.

XII. ADDITIONAL SERVICES

In the event that any additional services are required of the Contractor that are over and above those described in the Contract and attachments hereto, the services shall not be performed without the express prior written agreement between the Board and Contractor. The scope of additional services and fees to be charged shall be specified in any such written authorization.

XIII. SUBSTANTIAL PERFORMANCE

This Contract shall be deemed to have been substantially performed only when fully performed according to its terms and conditions and any modification thereof.

XIV. WAIVER OF RIGHTS

No right conferred on either party under this Contract shall be deemed waived and no breach of this Contract excused, unless such waive or excuse shall be in writing and signed by the party claimed to have waived such right.

XV. E-VERIFICATION

- A. IC 22-5-1.7 Chapter 1.7. Public Contract Services, Business Entities; Unauthorized Aliens.
- B. IC 22-5-1.7.2 "Contractor" As used in this chapter, "contractor" means a person that has or is attempting to enter into a public contract for services with a state agency or political subdivision.
- C. IC 22-5-1.7-3 "E-Verify program" As used in this chapter, "E-Verify program" means the electronic verification of work authorization program of the Illegal Immigration Reform and Immigration Responsibility Act of 1996 (P.L. 104-208), Division C, Title IV, s. 403(a), as amended, operated by the United States Department of Homeland Security or a successor work authorization program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work authorization status of newly hired employees under the Immigration Reform and Control.
- D. IC 22-5-1.7-4 "Person" As used in this chapter, "person" means an individual, a corporation, a limited liability company, a partnership, or another legal entity.
- E. IC 22-5-1.7-5 "Political subdivision" As used in this chapter, "political subdivision" has the meaning set forth in IC 36-1-2-13.
- F. IC 22-5-1.7-6 "Public contract for services" As used in this chapter, "public contract for services" means any type of agreement between a state agency or a political subdivision and a contractor for the procurement of services.
- G. IC 22-5-1.7-9 "Unauthorized alien" As used in this chapter, "unauthorized alien" has the meaning set forth in 8 U.S.C. 1324a(h)(3).
- H. IC 22-5-1.7-11 Contractors with public contract for services required to use E-Verify program; business entities that receive certain grants required to use E-Verify program Sec. 11.
 - a. This subsection applies only to a public contract for services entered into or renewed after June 30, 2011. A state agency or political subdivision may not enter into or renew a public contract for services with a contractor unless:
 - 1. the public contract contains:

- A. a provision requiring the contract to enroll in and verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program; and
- B. a provision that provides that a contractor is not required to verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program if the E-Verify program no longer exists; and
- 2. the contractor signs an affidavit affirming that the contractor does not knowingly employ an unauthorized alien.
- b. A state agency or political subdivision may not award a grant of more than one thousand dollars (\$1,000) to a business entity unless the business entity:
 - 1. signs a sworn affidavit that affirms that the business entity has enrolled and is participating in the E-Verify program;
 - 2. provides documentation to the state agency or political subdivision that the business entity has enrolled and is participating in the E-Verify program; and
 - 3. signs an affidavit affirming that the business entity does not knowingly employ an unauthorized alien
- I. IC 22-5-1.7-15 Certification by subcontractor. If a contractor uses a subcontractor to provide services for work the contractor is performing under a public contract for services, the subcontractor shall certify to the contractor in a manner consistent with federal law that the subcontractor, at the time of certification:
 - 1. does not knowingly employ or contract with an unauthorized alien; and
 - 2. has enrolled and is participating in the E-Verify program.
- J. Affidavit by Contractor. By execution of this contract I swear under the penalties of perjury that my company does not knowingly employ an unauthorized alien.

XVI. MISCELLANEOUS PROVISIONS

This Contract represents the entire understanding between the parties, and modifications of this Contract shall not be effective unless reduced to writing and signed by both parties. In the event any portion or portions of this Contract are found to be void or voidable portions, these portions shall be stricken and the remaining portions enforced.

All provisions of State Law applicable to the County and/or governmental entity or entities which is/are a party to this Contract are incorporated by reference as a part of this contract.

In the event this Contract is not fully executed and approved prior to the date of commencement, it shall be deemed retroactive in force and effect to the date of commencement upon and after the full execution, approvals, required filing and recordation.

XVII. TERMINATION

Termination of Agreement. The County shall have the right to terminate this Contract, with or without cause, by giving written notice to the Consultant of such termination and specifying the effective date thereof, at least fourteen (14) days before the effective date of such termination. In addition, the Consultant may, for any cause, also terminate this Contract by giving written notice to the Lake County Surveyor of such termination and specifying the effective date thereof, at least fourteen (14) days before the effective date of such termination.

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed by their duly authorized officers on the day and date first above written.

LAKE COUNTY DRAINAGE BOARD

CONTRACTOR

GERRY SCHEUB, CHAIRMAN

PRINTED NAME - TITLE

KYLE ALLEN, SR., MEMBER

ADDRESS

MICHAEL C. REPAY, MEMBER

CITY, STATE, ZIP CODE

LAKE COUNTY SURVEYOR

PHONE NUMBER

WILLIAM EMERSON, JR.

SIGNATURE

EMAIL

ATTEST: _____
MARY ELLEN KUPSIK, SECRETARY,
LAKE COUNTY DRAINAGE BOARD

Contract prepared by: Clifford E. Duggan, Jr., Legal Advisor, Lake County Surveyor's Office, Lake County, IN



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

“SCHEDULE OF PAYMENTS”

CONTRACT # _____

Project Name

1. Year 2016 \$

2. Year 2017 \$

TOTAL: \$

CN 117
Filtration / Settling –
Silt Tubes

APPLICATION

Sediment laden sheet flow from graded, sloped areas prior to establishment of vegetation such as behind curbs, along lot borders and around soil storage piles must be addressed as part of a comprehensive SWPPP. Unprotected topsoil, particularly on sloping areas, is vulnerable to significant erosion and sediment control problems. Erosion and runoff can significantly impact disturbed sites that may not be ready for permanent erosion control measures or permanent measures have not yet been established such as seeding and mulching.

Silt tubes are an alternative practice to the use of silt fence.

DESCRIPTION

Silt tubes are geotextile tubes filled with natural, biodegradable filter media. Silt tubes may be used where low-velocity sheet flow carrying sediment occurs. The tubes may not be used in swales and channels or where shallow concentrated flow occurs.

TECHNICAL INFORMATION REPORT (TIR) REQUIREMENTS

- No calculations are required in the TIR.

STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS

The following items shall appear on the construction SWPPP plan sheets and detail sheets;

- Location of all silt tubes
- Installation instructions
- Inspection procedures and checklist

INSTALLATION / APPLICATION

See manufacturer's application directions. Note: Silt tubes must be overlapped at end sections by a minimum of 1 ft.

MAINTENANCE

- Inspect weekly and after each rainfall event
- Do not allow vehicular traffic to cross silt tubes. Replace when driven over.
- Remove sediment when the height reaches 1/3 of tube.

SPECIFICATIONS

CN 117
Filtration / Settling –
Silt Tubes

Silt Tube Specifications		
Property	Test Method	Value
Media	N/A	100% Hardwood
Material Size (Grind)	N/A	70% 1.5 to 2 inches min 30% Fines max
Geotextile (Tubular Knit)		
Material	-	Polypropylene Multi-filament
Maximum Opening	-	1 x 1 mm
UV Resistance	ASTM D4355	>85% @ 500 Hrs
Life Expectancy	-	18-24 Mos
Specific Gravity	-	0.91 g
Static Puncture	ASTM D6241	2400 N

LIMITATIONS

- Degradable silt tubes have a minimum life of 18-24 months
- Degradable silt tubes must be replaced if driven over.

REFERENCES

1. *The Indiana Storm Water Quality Design Manual, Planning and Specification Guide for Effective Erosion and Sediment Control and Post-Construction Water Quality*. Published by the Indiana Department of Environmental Management.
2. See <http://www.lakecountysurveyor.org> for additional and current information.

Supplemental Bid Proposal Form (To be attached and made part of Form 96)

Project: Singleton Ditch Maintenance – Phase III

The undersigned, having reviewed the local contract documents, comprised of the project documents for the Project known as Singleton Ditch Maintenance Phase III, Kankakee River Watershed, Lake County, Indiana (May 2016)

The undersigned has carefully inspected the site of the proposed work and can perform the various items of work for the prices stipulated. All prices include any incidental work that may be necessary to complete the project in accordance with the provisions of the plans and specifications, as may be amended.

Item No.	Item						Quantity	Unit	Unit Price	Total
1	Channel Bottom Dipping (Sediment Removal by Dragline Excavation)						33,500	CY	\$	\$
	From Station	To Station	Distance	Depth	Width	Volume				
	251+71	325+00	7,329	1.0	30	8,200				
	325+00	350+00	2,500	1.5	30	4,200				
	350+00	400+00	5,000	2.0	30	11,200				
	400+00	415+00	1,500	1.5	30	2,500				
	415+00	448+29	3,329	2.0	30	7,400				
2	Siltworm (for approved equal)						19,658	LF	\$	\$
	From Station	To Station	Distance							
	251+71	448+29	19,658							
3	Mulched Seedling						14.0	AC	\$	\$
	From Station	To Station	Distance	Width	Area					
	251+71	448+29	19,658	30	13.54					
4	Channel Bank Excavation (Slope Repair)						1,130	LF	\$	\$
	From Station	To Station	Distance							
	254+85	255+45	60							
	256+00	256+25	25							
	270+30	271+25	95							
	273+00	273+20	20							
	274+00	274+35	35							
	275+20	275+55	35							
	276+50	281+85	535							
	283+75	285+00	125							
	333+00	333+35	35							
	339+80	340+00	20							
	421+70	422+20	50							
	422+70	423+35	65							
	424+25	424+55	30							
5	Erosion Control Blanket and Seeding						1,326	SY	\$	\$
	From Station	To Station	Distance	Width	Area					
	254+85	255+45	60	10	67					
	256+00	256+25	25	10	28					
	270+30	271+25	95	10	106					
	273+00	273+20	20	10	22					
	274+00	274+35	35	10	39					
	275+20	275+55	35	28	109					
	276+50	281+85	535	10	594					
	283+75	285+00	125	10	139					
	333+00	333+35	35	10	39					
	339+80	340+00	20	10	22					
	421+70	422+20	50	10	56					
	422+70	423+35	65	10	72					
	424+25	424+55	30	10	33					
6	Tree and Debris Removal						1	LS	\$	\$
Total Bid Price									\$	

Bidder's proposal in words for making entire improvement:

This proposal is submitted this _____ day of _____, 2016.
 Corporation: _____
 Address: _____
 By (Printed Name): By (Signature): _____
 Title: _____

POTENTIAL BIDDERS
2016 CEDAR CREEK MAINTENANCE
LAKE DALECARLIA TO 171ST AVENUE
CEDAR CREEK TWP., LAKE COUNTY, IN

DELTA III
2063 W. 1250 S
Hanna, IN 46340

\$ 123,075.00

R.A. OROS
8244 Greenwood Avenue
Munster, IN 46321

\$ _____

GARIUP CONSTRUCTION CO.
24121 Whitcomb Street
Lowell, IN 46356

\$ _____

GOUGH, INC.
2200 E. 88th Drive
Merrillville, IN 46410

\$ _____

AUSTGEN EQUIPMENT
11309 Broadway, Suite C3
Crown Point, IN 46307

\$ 132,072.10

10-B-2
6-15-16



Bill Emerson, Jr.
County Surveyor

Office of the Lake County Surveyor

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ADDENDUM NO. 1

2016 Cedar Creek Ditch Maintenance 171st Avenue to Lake Dalecarlia

Question Received:

1. Can a copy of the Lake County ditch maintenance Contract be provided?

Response to Question:

1. The standard Lake County Contract is attached to this Addendum.



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Bill Emerson, Jr.
County Surveyor

CONTRACT# _____

PROJECT NAME: _____

This CONTRACT is made and entered into this _____th day of MONTH, 2015 by and between _____, a(n) INDIANA Corporation hereinafter referred to as the "Contractor" and the Lake County Drainage Board, hereinafter referred to as the "Board".

NOW, THEREFORE, in consideration of the mutual promises contained herein, the Board and the Contractor do hereby mutually agree as follows:

I. SCOPE OF WORK

The Contractor shall provide the project services as described herein in Attachment A; in the approved plans and specifications, and any modifications or addenda thereof, which are attached hereto or otherwise incorporated herein by reference; in the terms contained in any permits obtained or not yet approved and any monies to be received from contributing municipalities; and in the Contractor's bid/response and any supplemental responses, and subsequent negotiations arising therefrom, all of which is incorporated herein by reference. Where there is an inconsistency between these terms, the term that is most beneficial to the Board shall control.

The Contractor shall perform the work covered by this Contract under the supervision of the Lake County Surveyor and/or its designee.

The Contractor shall comply with all plans, specifications, terms and conditions of this Contract. Deviation from said plans, specifications, terms or conditions shall be a basis for an immediate cease and desist notice of said unauthorized activity by the Board or the Lake County Surveyor's Office and, where appropriate as determined by the Board or the Lake County Surveyor's Office, cease and desist of contract activity until further action taken by the Board at its next public meeting.

The scope of work occurs on private property and/or within and upon a regulated drain and its easement as authorized by statute. The Contractor has the authority to keep unauthorized persons from the job site in order to avoid any potential liability arising therefrom. Should such persons fail to leave said site, the Contractor is to immediately contact the Lake County Surveyor's office, who may contact the Lake County Sheriff to maintain a safe work site and limit any liability of Lake County or the Contractor for any alleged claims or damages.

Soil Conditions

The Contractor agrees to accept full responsibility for its conclusions relative to the nature and probable difficulties of the work due to underground structures and soil conditions.

The results of subsurface soil investigations shown on the drawings or given in the specifications are for general information only. Neither the Lake County Drainage Board nor the engineer guarantees that materials other than those given in this information will not be encountered or that the proportions of the various materials will not vary from the information indicated on the plans or given in the specifications.

The Contractor shall be responsible for making its own subsurface soil investigations and shall make its own determinations from the investigations. The Contractor waives all claims for damages which it may suffer by reason of the inadequacies or discrepancies of the underground information shown on the plans or provided in the specifications. No compensation will be paid to the Contractor due to inadequacies or discrepancies in subsurface data furnished by Lake County Drainage Board or by the engineer.

Materials

No materials of any kind shall be used until they have been examined by the Lake County Surveyor or his engineer or other person authorized by the Lake County Surveyor, who shall have full power to condemn any work or materials not in accordance with these specifications, and to require the Contractor to remove any work or materials so condemned, and at the contractor's own expense to replace such condemned work or materials to the Lake County Surveyor or his engineer's satisfaction. The decision of the Lake County Surveyor or his engineer shall be final as to quality of workmanship and materials.

Clean up

During the time that the work is in progress the Contractor shall make every effort to maintain the site in a neat and orderly condition. All refuse, broken pipe, excess fill material, cribbing, etc., shall be removed as soon as practicable. Should the work not be maintained in a satisfactory condition the Lake County Surveyor or his engineer, or other person authorized by the Lake County Surveyor may cause the work to stop until the "clean-up" portion of the work has been done to the satisfaction of the Lake County Surveyor and/or its engineer.

The work will not be considered complete and the final payment certificate issued until all rubbish, unused material or equipment due to or connected with it shall have been removed and the premises left in a condition satisfactory to the Lake County Surveyor and/or its engineer.

II. PAYMENT OF SERVICE

- a. For the services rendered by the Contractor, the Board shall pay to the Contractor the sum of _____ (\$ _____), payable in accordance with the attached "Schedule of Payments".
- b. No payment under paragraph (a) above shall be made until:
 - (1) The Lake County Surveyor has filed with the Board a written report approving the work performed by Contractor as required under this contract.
 - (2) The Contractor shall have filed with the Board a waiver of lien and verified statement that all expenses incurred for labor, material, and suppliers have been paid in full.
- c. Billing for the services rendered under this contract shall be in the form and manner prescribed by the State of Indiana and the Board.

- d. Approval of payment claims shall be made at a regular Board Meeting. Should there be a dispute regarding any invoice or payment thereof, the party raising the dispute shall notify the other party upon discovery thereof. Payment of any invoice shall not be a waiver of any right associated with a dispute with the invoice or payment, and any future payment may be modified accordingly to rectify any discovered discrepancy.
- e. Fifteen percent (15%) of the contract price shall be withheld by the Board for a period of 60 days after completion of the work and its acceptance by the Lake County Surveyor for the purpose of securing payment of suppliers, laborers, and subcontractors, if any. However, if the Contractor files waivers of lien from all subcontractors, suppliers and laborers of this project, the 15% retainage may be paid along with the final payment under this contract.
- f. The sources of funds for payment under this Contract is the Lake County Drainage Board and/or such other applicable and appropriate sources of funds as apply to the scope of work to be performed on behalf of the approved budget for this specific project, and more specifically the line item therein for the payment of these services. By execution of this Contract the Lake County Drainage Board or Lake County is not agreeing to use funds other than the funds in the budget for the purposes enunciated herein. The sources are restricted to those funds which have been appropriated for this purpose by the Lake County Council as applicable and approved by the Department of Local Government Finance, the State Board of Accounts and/or State Board of Tax Commissioners, as applicable. In this regard this Contract may be terminated, in whole or in part, when the Lake County Auditor makes a written determination that the funds are not appropriated or otherwise available to support continuation of performance. Such determination shall be final and conclusive. Notice shall be given to the Contractor as soon as the Board is aware of such a situation. However, the Board will make good faith efforts to provide funding for this Contract, and if such funding is available and appropriated, the Board shall fulfill its financial obligation, subject to all terms and conditions herein.

III. SUBLETTING AND ASSIGNMENT OF CONTRACT

No portion of the Contract shall be sublet, assigned or otherwise disposed of, except with the written consent of the Board. Consent to sublet, assign, or otherwise dispose of any portion of the Contract shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the Contract.

IV. SUCCESSORS AND ASSIGNEES

The Contractor binds its successors, executors, administrators and assignees to all covenants of this Contract. The Contractor shall not assign, sublet or transfer its interest in this Contract without the prior written consent of the Board, except as above set forth.

V. TERM OF CONTRACT

Time is of the essence. The Contractor shall complete the work under and pursuant to this Contract within 180 days, including Saturdays, Sundays, and holidays. Should the Contractor fail to do so, the Lake County Drainage Board is entitled to and may retain, from compensation otherwise to be paid, or may otherwise pursue payment thereof, One Hundred Dollars (\$100.00) for each day, Sundays and holidays not included, that the work remains uncompleted beyond

the specified period, which sum is agreed on as the proper measure of liquidated damages that Board will sustain by the failure of contractor to complete the work in the time stipulated, and this sum is not to be construed in any sense as a penalty.

When good cause for a delay in the work is shown by the Contractor, the Lake County Surveyor shall determine the seriousness of the delay and extend the time of completion of the work accordingly and in his sole discretion. Such good cause may include, but is not limited to, changes in the work, strikes, lockouts, or other labor disputes; fire, earthquake, or other natural disasters; unavoidable casualty or damage to personnel, materials, or equipment; delay in receiving materials or equipment; acts or neglect of the Board, the Board's representative, or an employee of either; acts or neglect of another Contractor employed by the Board, or any other person not directly responsible to Contractor; or other such similar cause beyond the control of the Contractor.

Any claim by Contractor for an extension of time must be made in writing to the Lake County Surveyor not more than one (1) day following the development of the cause for delay. However, in the case of a continuing cause of delay, only one claim need be made. Whenever the Lake County Surveyor or its representative in his or her own discretion determines that circumstances warrant an extension of time, he or she may grant such an extension until a claim of delay has been submitted by the Contractor.

VI. CHOICE OF LAW

This Contract shall be construed in accordance with and governed by the laws of the State of Indiana and suit, if any must be brought in Lake County, State of Indiana.

VII. INSURANCE/SECURITY/INDEMNITY

The Contractor shall carry or require that there be carried Workmen's Compensation Insurance for all its employees and those of its subcontractors in accordance with state or territorial Workmen's Compensation laws.

The Contractor shall carry or require that there be carried public liability and property damage insurance in amounts as outlined in IC 34-4-16.5-1 et. seq. to protect the Board and County, the Contractor and its subcontractors from claims which may arise from work under this Contract. The Board shall be named as an additional insured and be fully protected thereunder.

All insurance as required herein shall be effective for acts occurring during and shall be maintained during the entire life of this Contract.

The Contractor shall maintain during the term of the Contract a performance bond, payable to the Lake County Drainage Board, providing security for the Contractor's performance obligations in the amount of the Contract. Said bond may be reduced to an amount not less than the amount of the remaining item costs in said Contract.

The Contractor agrees to indemnify and hold harmless Lake County, the Lake County Drainage Board, the Lake County Surveyor, its officials, its departments, its boards, its employees, and its agents and assigns against all actions, claims or demands for damages of any kind whatsoever, known or unknown, which may in any way be caused by the negligent acts of the Contractor, including but not limited to the negligent digging up of streets, alleys or public grounds, and by

improper care of trees and shrubbery, or which may result from the default, carelessness or negligence of the Contractor, its agents, employees or workers under its control or direction in the performance of the work described herein, and shall refund and reimburse to the Lake County Drainage Board all sums which it may be obligated or adjudged to pay on any such claims or demands immediately upon such determination.

VIII. REMEDIES UPON DEFAULT

If either party of this Contract shall be in default of any of the terms and conditions hereof, the party complaining of the default shall notify the defaulting party in writing of the default complained of, and the defaulting party shall have ten (10) days from the date of receipt of said written notification in which to cure the default complained of therein. Only after the expiration of the ten (10) day period described herein may the parties resort to legal proceedings to enforce any of the terms and conditions of this Contract or to collect damages in a court of competent jurisdiction.

Should the Contractor be cited on three or more occasions by the Lake County Surveyor or Contract Engineer on the project, the Contract is subject to termination for cause, as determined by the Board at a public meeting.

IX. EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION

The Contractor agrees by the execution of this contract that in regards to its operations:

- a. No person shall, on the grounds of race, color, national origin or sex, be excluded from participation or be denied the benefits thereof, or be subject to discrimination.
- b. The principals of equal opportunity in employment and delivery of services are applicable and the contractor commits to a policy and practice of nondiscrimination and affirmative action based upon age, military service, ancestry, color, national origin, physical handicap, political affiliation, race, religion and sex.
- c. The provisions of the Affirmative Action Program adopted by the Board of Commissioners of the County of Lake on May 31, 1977, as applicable, are incorporated by reference as part of this Contract.
- d. The provisions of all Federal Civil Rights laws and the Indiana Civil rights laws as applicable are incorporated by reference as part of this Contract.
- e. Breach of any of the equal opportunity and/or the nondiscrimination provisions of the Contract may be regarded as a material breach of the Contract.
- f. Where applicable, nondiscriminatory clauses and affirmative action clauses shall be made a part of any agreement, contract or lease between Contractor and any organization, corporation, subcontractor or other legal entity that benefits from the funds paid to contractor by this Contract.

X. LIMITATION OF AUTHORITY

The Contractor has no authority to obligate the Board on any contract or agreement of any kind, character or nature, nor for any expense, except as otherwise delineated in this Contract.

XI. PERSONNEL/INDEPENDENT CONTRACTOR

The Contractor represents that he has, or will secure at his own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the

Board. All of the services required hereunder will be performed by the Contractor or under his supervision, and all personnel engaged in the work shall be fully qualified to perform such services.

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In the event that any additional services are required of the Contractor that are over and above those described in the Contract and attachments hereto, the services shall not be performed without the express prior written agreement between the Board and Contractor. The scope of additional services and fees to be charged shall be specified in any such written authorization.

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This Contract shall be deemed to have been substantially performed only when fully performed according to its terms and conditions and any modification thereof.

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No right conferred on either party under this Contract shall be deemed waived and no breach of this Contract excused, unless such waive or excuse shall be in writing and signed by the party claimed to have waived such right.

XV. E-VERIFICATION

- A. IC 22-5-1.7 Chapter 1.7. Public Contract Services, Business Entities; Unauthorized Aliens.
- B. IC 22-5-1.7.2 "Contractor" As used in this chapter, "contractor" means a person that has or is attempting to enter into a public contract for services with a state agency or political subdivision.
- C. IC 22-5-1.7-3 "E-Verify program" As used in this chapter, "E-Verify program" means the electronic verification of work authorization program of the Illegal Immigration Reform and Immigration Responsibility Act of 1996 (P.L. 104-208), Division C, Title IV, s. 403(a), as amended, operated by the United States Department of Homeland Security or a successor work authorization program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work authorization status of newly hired employees under the Immigration Reform and Control.
- D. IC 22-5-1.7-4 "Person" As used in this chapter, "person" means an individual, a corporation, a limited liability company, a partnership, or another legal entity.
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 - a. This subsection applies only to a public contract for services entered into or renewed after June 30, 2011. A state agency or political subdivision may not enter into or renew a public contract for services with a contractor unless:
 - 1. the public contract contains:

- A. a provision requiring the contract to enroll in and verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program; and
- B. a provision that provides that a contractor is not required to verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program if the E-Verify program no longer exists; and
- 2. the contractor signs an affidavit affirming that the contractor does not knowingly employ an unauthorized alien.
- b. A state agency or political subdivision may not award a grant of more than one thousand dollars (\$1,000) to a business entity unless the business entity:
 - 1. signs a sworn affidavit that affirms that the business entity has enrolled and is participating in the E-Verify program;
 - 2. provides documentation to the state agency or political subdivision that the business entity has enrolled and is participating in the E-Verify program; and
 - 3. signs an affidavit affirming that the business entity does not knowingly employ an unauthorized alien
- I. IC 22-5-1.7-15 Certification by subcontractor. If a contractor uses a subcontractor to provide services for work the contractor is performing under a public contract for services, the subcontractor shall certify to the contractor in a manner consistent with federal law that the subcontractor, at the time of certification:
 - 1. does not knowingly employ or contract with an unauthorized alien; and
 - 2. has enrolled and is participating in the E-Verify program.
- J. Affidavit by Contractor. By execution of this contract I swear under the penalties of perjury that my company does not knowingly employ an unauthorized alien.

XVI. MISCELLANEOUS PROVISIONS

This Contract represents the entire understanding between the parties, and modifications of this Contract shall not be effective unless reduced to writing and signed by both parties. In the event any portion or portions of this Contract are found to be void or voidable portions, these portions shall be stricken and the remaining portions enforced.

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IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed by their duly authorized officers on the day and date first above written.

LAKE COUNTY DRAINAGE BOARD

CONTRACTOR

GERRY SCHEUB, CHAIRMAN

PRINTED NAME - TITLE

KYLE ALLEN, SR., MEMBER

ADDRESS

MICHAEL C. REPAY, MEMBER

CITY, STATE, ZIP CODE

LAKE COUNTY SURVEYOR

PHONE NUMBER

WILLIAM EMERSON, JR.

SIGNATURE

EMAIL

ATTEST: _____
MARY ELLEN KUPSIK, SECRETARY,
LAKE COUNTY DRAINAGE BOARD



*Bill Emerson, Jr.
County Surveyor*

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

“SCHEDULE OF PAYMENTS”

CONTRACT # _____

Project Name

1. Year 2016 \$

2. Year 2017 \$

TOTAL: \$



Office of the Lake County Surveyor

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Bill Emerson, Jr.
County Surveyor

Comment Sheet

Please provide your comments, concerns, and/or suggestions regarding the proposed Cedar Creek Maintenance Project from Lake Dalecarlia to 171st Avenue near Lowell, Cedar Creek Township. Your comments are important to us, and we sincerely appreciate your time and participation during the public involvement process. Please submit your comments by **Friday, May 6, 2016**. Comments may be mailed, faxed, or submitted via email to the address/fax and emails included on this letter.

Meeting Date: Friday, April 29, 2016 – 10:00am
Cedar Creek Township Community Center
151 N Freemont Street
Lowell, IN 46356

Project: Cedar Creek Maintenance
from Lake Dalecarlia to 171st Avenue

Name: (Please Print) Lake Dalecarlia Regional Waste Dist.

Address: 15901 Briargate Pl, Lowell, IN, 46356
Street City State Zip-code

Email: ldrwd@lakedalecarlia.org

COMMENTS: For access to Cedar Creek via our
treatment plant access road (located at
approx. 4120 Main St, Lowell) please contact
Wanda DeBolt, maintenance supervisor at
219-406-9001 or 219-296-4035 24 hours in
advance so we can unlock the gate. (please use back side for additional space)

SIGNATURE: Daniel V. Gossman

Bill Emerson, Jr.
Lake County Surveyor
emerson@lakecountyin.org

Daniel V. Gossman
Drainage Administrator
gossmdv@lakecountyin.org

Thomas Regalado
Asst. Drainage Admn.
regaltr@lakecountyin.org

POTENTIAL BIDDERS
2016 MC CONNELL DITCH MAINTENANCE
MORSE STREET TO 171ST AVENUE
CEDAR CREEK TWP., LAKE COUNTY, IN

DELTA III
2063 W. 1250 S
Hanna, IN 46340

\$ _____

R.A. OROS
8244 Greenwood Avenue
Munster, IN 46321

\$ _____

GARIUP CONSTRUCTION CO.
24121 Whitcomb Street
Lowell, IN 46356

\$ _____

GOUGH, INC.
2200 E. 88th Drive
Merrillville, IN 46410

\$ _____

AUSTGEN EQUIPMENT
11309 Broadway, Suite C3
Crown Point, IN 46307

\$ 430,311.85

10-B-3
6-15-16



Bill Emerson, Jr.
County Surveyor

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

ADDENDUM NO. 1

2016 McConnell Ditch and Lateral A Maintenance 171st Avenue to Morse Street

Questions Received:

1. Can a copy of the Lake County ditch maintenance Contract be provided?
2. How is the wetland matting to be paid for?

Responses to Questions:

1. The standard Lake County Contract is attached to this Addendum.
2. As stated in Section 3.1 – Channel Excavation and Bottom Dipping (Sediment Removal), Page 8 of the Technical Specifications; "...work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.1 Practice 103...". Practice 103 shows one method of temporarily encroaching on a wetland using matting. Pages 5.103-1 and 5.103-2 which encompass Practice 103 are attached to this Addendum for ease of reference. Wetland matting shall not be paid for separately but shall be included as part of the unit price for Channel Excavation and Bottom Dipping.



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

CONTRACT# _____

PROJECT NAME: _____

This CONTRACT is made and entered into this _____th day of MONTH, 2015 by and between _____, a(n) INDIANA Corporation hereinafter referred to as the "Contractor" and the Lake County Drainage Board, hereinafter referred to as the "Board".

NOW, THEREFORE, in consideration of the mutual promises contained herein, the Board and the Contractor do hereby mutually agree as follows:

I. SCOPE OF WORK

The Contractor shall provide the project services as described herein in Attachment A; in the approved plans and specifications, and any modifications or addenda thereof, which are attached hereto or otherwise incorporated herein by reference; in the terms contained in any permits obtained or not yet approved and any monies to be received from contributing municipalities; and in the Contractor's bid/response and any supplemental responses, and subsequent negotiations arising therefrom, all of which is incorporated herein by reference. Where there is an inconsistency between these terms, the term that is most beneficial to the Board shall control.

The Contractor shall perform the work covered by this Contract under the supervision of the Lake County Surveyor and/or its designee.

The Contractor shall comply with all plans, specifications, terms and conditions of this Contract. Deviation from said plans, specifications, terms or conditions shall be a basis for an immediate cease and desist notice of said unauthorized activity by the Board or the Lake County Surveyor's Office and, where appropriate as determined by the Board or the Lake County Surveyor's Office, cease and desist of contract activity until further action taken by the Board at its next public meeting.

The scope of work occurs on private property and/or within and upon a regulated drain and its easement as authorized by statute. The Contractor has the authority to keep unauthorized persons from the job site in order to avoid any potential liability arising therefrom. Should such persons fail to leave said site, the Contractor is to immediately contact the Lake County Surveyor's office, who may contact the Lake County Sheriff to maintain a safe work site and limit any liability of Lake County or the Contractor for any alleged claims or damages.

Soil Conditions

The Contractor agrees to accept full responsibility for its conclusions relative to the nature and probable difficulties of the work due to underground structures and soil conditions.

The results of subsurface soil investigations shown on the drawings or given in the specifications are for general information only. Neither the Lake County Drainage Board nor the engineer guarantees that materials other than those given in this information will not be encountered or that the proportions of the various materials will not vary from the information indicated on the plans or given in the specifications.

The Contractor shall be responsible for making its own subsurface soil investigations and shall make its own determinations from the investigations. The Contractor waives all claims for damages which it may suffer by reason of the inadequacies or discrepancies of the underground information shown on the plans or provided in the specifications. No compensation will be paid to the Contractor due to inadequacies or discrepancies in subsurface data furnished by Lake County Drainage Board or by the engineer.

Materials

No materials of any kind shall be used until they have been examined by the Lake County Surveyor or his engineer or other person authorized by the Lake County Surveyor, who shall have full power to condemn any work or materials not in accordance with these specifications, and to require the Contractor to remove any work or materials so condemned, and at the contractor's own expense to replace such condemned work or materials to the Lake County Surveyor or his engineer's satisfaction. The decision of the Lake County Surveyor or his engineer shall be final as to quality of workmanship and materials.

Clean up

During the time that the work is in progress the Contractor shall make every effort to maintain the site in a neat and orderly condition. All refuse, broken pipe, excess fill material, cribbing, etc., shall be removed as soon as practicable. Should the work not be maintained in a satisfactory condition the Lake County Surveyor or his engineer, or other person authorized by the Lake County Surveyor may cause the work to stop until the "clean-up" portion of the work has been done to the satisfaction of the Lake County Surveyor and/or its engineer.

The work will not be considered complete and the final payment certificate issued until all rubbish, unused material or equipment due to or connected with it shall have been removed and the premises left in a condition satisfactory to the Lake County Surveyor and/or its engineer.

II. PAYMENT OF SERVICE

- a. For the services rendered by the Contractor, the Board shall pay to the Contractor the sum of _____ (\$ _____), payable in accordance with the attached "Schedule of Payments".
- b. No payment under paragraph (a) above shall be made until:
 - (1) The Lake County Surveyor has filed with the Board a written report approving the work performed by Contractor as required under this contract.
 - (2) The Contractor shall have filed with the Board a waiver of lien and verified statement that all expenses incurred for labor, material, and suppliers have been paid in full.
- c. Billing for the services rendered under this contract shall be in the form and manner prescribed by the State of Indiana and the Board.

- d. Approval of payment claims shall be made at a regular Board Meeting. Should there be a dispute regarding any invoice or payment thereof, the party raising the dispute shall notify the other party upon discovery thereof. Payment of any invoice shall not be a waiver of any right associated with a dispute with the invoice or payment, and any future payment may be modified accordingly to rectify any discovered discrepancy.
- e. Fifteen percent (15%) of the contract price shall be withheld by the Board for a period of 60 days after completion of the work and its acceptance by the Lake County Surveyor for the purpose of securing payment of suppliers, laborers, and subcontractors, if any. However, if the Contractor files waivers of lien from all subcontractors, suppliers and laborers of this project, the 15% retainage may be paid along with the final payment under this contract.
- f. The sources of funds for payment under this Contract is the Lake County Drainage Board and/or such other applicable and appropriate sources of funds as apply to the scope of work to be performed on behalf of the approved budget for this specific project, and more specifically the line item therein for the payment of these services. By execution of this Contract the Lake County Drainage Board or Lake County is not agreeing to use funds other than the funds in the budget for the purposes enunciated herein. The sources are restricted to those funds which have been appropriated for this purpose by the Lake County Council as applicable and approved by the Department of Local Government Finance, the State Board of Accounts and/or State Board of Tax Commissioners, as applicable. In this regard this Contract may be terminated, in whole or in part, when the Lake County Auditor makes a written determination that the funds are not appropriated or otherwise available to support continuation of performance. Such determination shall be final and conclusive. Notice shall be given to the Contractor as soon as the Board is aware of such a situation. However, the Board will make good faith efforts to provide funding for this Contract, and if such funding is available and appropriated, the Board shall fulfill its financial obligation, subject to all terms and conditions herein.

III. SUBLETTING AND ASSIGNMENT OF CONTRACT

No portion of the Contract shall be sublet, assigned or otherwise disposed of, except with the written consent of the Board. Consent to sublet, assign, or otherwise dispose of any portion of the Contract shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the Contract.

IV. SUCCESSORS AND ASSIGNEES

The Contractor binds its successors, executors, administrators and assignees to all covenants of this Contract. The Contractor shall not assign, sublet or transfer its interest in this Contract without the prior written consent of the Board, except as above set forth.

V. TERM OF CONTRACT

Time is of the essence. The Contractor shall complete the work under and pursuant to this Contract within 180 days, including Saturdays, Sundays, and holidays. Should the Contractor fail to do so, the Lake County Drainage Board is entitled to and may retain, from compensation otherwise to be paid, or may otherwise pursue payment thereof, One Hundred Dollars (\$100.00) for each day, Sundays and holidays not included, that the work remains uncompleted beyond

the specified period, which sum is agreed on as the proper measure of liquidated damages that Board will sustain by the failure of contractor to complete the work in the time stipulated, and this sum is not to be construed in any sense as a penalty.

When good cause for a delay in the work is shown by the Contractor, the Lake County Surveyor shall determine the seriousness of the delay and extend the time of completion of the work accordingly and in his sole discretion. Such good cause may include, but is not limited to, changes in the work, strikes, lockouts, or other labor disputes; fire, earthquake, or other natural disasters; unavoidable casualty or damage to personnel, materials, or equipment; delay in receiving materials or equipment; acts or neglect of the Board, the Board's representative, or an employee of either; acts or neglect of another Contractor employed by the Board, or any other person not directly responsible to Contractor; or other such similar cause beyond the control of the Contractor.

Any claim by Contractor for an extension of time must be made in writing to the Lake County Surveyor not more than one (1) day following the development of the cause for delay. However, in the case of a continuing cause of delay, only one claim need be made. Whenever the Lake County Surveyor or its representative in his or her own discretion determines that circumstances warrant an extension of time, he or she may grant such an extension until a claim of delay has been submitted by the Contractor.

VI. CHOICE OF LAW

This Contract shall be construed in accordance with and governed by the laws of the State of Indiana and suit, if any must be brought in Lake County, State of Indiana.

VII. INSURANCE/SECURITY/INDEMNITY

The Contractor shall carry or require that there be carried Workmen's Compensation Insurance for all its employees and those of its subcontractors in accordance with state or territorial Workmen's Compensation laws.

The Contractor shall carry or require that there be carried public liability and property damage insurance in amounts as outlined in IC 34-4-16.5-1 et. seq. to protect the Board and County, the Contractor and its subcontractors from claims which may arise from work under this Contract. The Board shall be named as an additional insured and be fully protected thereunder.

All insurance as required herein shall be effective for acts occurring during and shall be maintained during the entire life of this Contract.

The Contractor shall maintain during the term of the Contract a performance bond, payable to the Lake County Drainage Board, providing security for the Contractor's performance obligations in the amount of the Contract. Said bond may be reduced to an amount not less than the amount of the remaining item costs in said Contract.

The Contractor agrees to indemnify and hold harmless Lake County, the Lake County Drainage Board, the Lake County Surveyor, its officials, its departments, its boards, its employees, and its agents and assigns against all actions, claims or demands for damages of any kind whatsoever, known or unknown, which may in any way be caused by the negligent acts of the Contractor, including but not limited to the negligent digging up of streets, alleys or public grounds, and by

improper care of trees and shrubbery, or which may result from the default, carelessness or negligence of the Contractor, its agents, employees or workers under its control or direction in the performance of the work described herein, and shall refund and reimburse to the Lake County Drainage Board all sums which it may be obligated or adjudged to pay on any such claims or demands immediately upon such determination.

VIII. REMEDIES UPON DEFAULT

If either party of this Contract shall be in default of any of the terms and conditions hereof, the party complaining of the default shall notify the defaulting party in writing of the default complained of, and the defaulting party shall have ten (10) days from the date of receipt of said written notification in which to cure the default complained of therein. Only after the expiration of the ten (10) day period described herein may the parties resort to legal proceedings to enforce any of the terms and conditions of this Contract or to collect damages in a court of competent jurisdiction.

Should the Contractor be cited on three or more occasions by the Lake County Surveyor or Contract Engineer on the project, the Contract is subject to termination for cause, as determined by the Board at a public meeting.

IX. EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION

The Contractor agrees by the execution of this contract that in regards to its operations:

- a. No person shall, on the grounds of race, color, national origin or sex, be excluded from participation or be denied the benefits thereof, or be subject to discrimination.
- b. The principals of equal opportunity in employment and delivery of services are applicable and the contractor commits to a policy and practice of nondiscrimination and affirmative action based upon age, military service, ancestry, color, national origin, physical handicap, political affiliation, race, religion and sex.
- c. The provisions of the Affirmative Action Program adopted by the Board of Commissioners of the County of Lake on May 31, 1977, as applicable, are incorporated by reference as part of this Contract.
- d. The provisions of all Federal Civil Rights laws and the Indiana Civil rights laws as applicable are incorporated by reference as part of this Contract.
- e. Breach of any of the equal opportunity and/or the nondiscrimination provisions of the Contract may be regarded as a material breach of the Contract.
- f. Where applicable, nondiscriminatory clauses and affirmative action clauses shall be made a part of any agreement, contract or lease between Contractor and any organization, corporation, subcontractor or other legal entity that benefits from the funds paid to contractor by this Contract.

X. LIMITATION OF AUTHORITY

The Contractor has no authority to obligate the Board on any contract or agreement of any kind, character or nature, nor for any expense, except as otherwise delineated in this Contract.

XI. PERSONNEL/INDEPENDENT CONTRACTOR

The Contractor represents that he has, or will secure at his own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the

Board. All of the services required hereunder will be performed by the Contractor or under his supervision, and all personnel engaged in the work shall be fully qualified to perform such services.

XII. ADDITIONAL SERVICES

In the event that any additional services are required of the Contractor that are over and above those described in the Contract and attachments hereto, the services shall not be performed without the express prior written agreement between the Board and Contractor. The scope of additional services and fees to be charged shall be specified in any such written authorization.

XIII. SUBSTANTIAL PERFORMANCE

This Contract shall be deemed to have been substantially performed only when fully performed according to its terms and conditions and any modification thereof.

XIV. WAIVER OF RIGHTS

No right conferred on either party under this Contract shall be deemed waived and no breach of this Contract excused, unless such waive or excuse shall be in writing and signed by the party claimed to have waived such right.

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LAKE COUNTY DRAINAGE BOARD

CONTRACTOR

GERRY SCHEUB, CHAIRMAN

PRINTED NAME - TITLE

KYLE ALLEN, SR., MEMBER

ADDRESS

MICHAEL C. REPAY, MEMBER

CITY, STATE, ZIP CODE

LAKE COUNTY SURVEYOR

PHONE NUMBER

WILLIAM EMERSON, JR.

SIGNATURE

EMAIL

ATTEST: _____
MARY ELLEN KUPSIK, SECRETARY,
LAKE COUNTY DRAINAGE BOARD

Contract prepared by: Clifford E. Duggan, Jr., Legal Advisor, Lake County Surveyor's Office, Lake County, IN



Bill Emerson, Jr.
County Surveyor

Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

“SCHEDULE OF PAYMENTS”

CONTRACT # _____

Project Name

1. Year 2016 \$

2. Year 2017 \$

TOTAL: \$

PRACTICE 103
TEMPORARY WETLAND CROSSING (Drag Line Mat)

DESCRIPTION ● A series of wooden "rafts" placed beneath the tread of heavy machinery to more evenly distribute the weight.

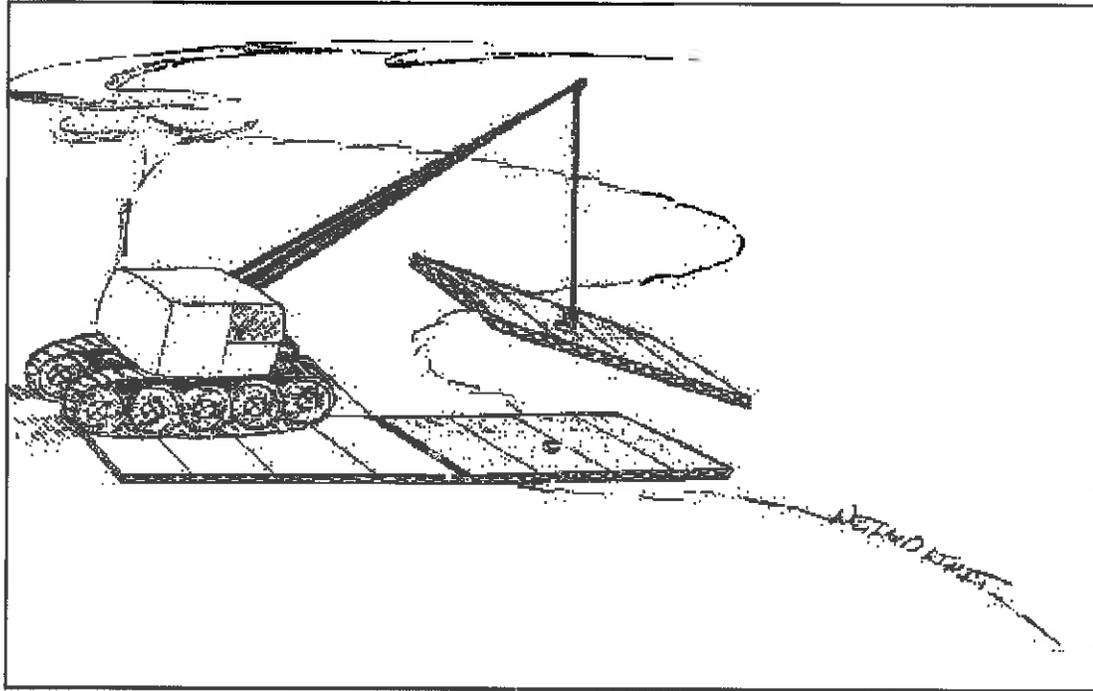


Exhibit 103a: Temporary Wetland Crossing (Source: CBBEL Files)

PURPOSE	● To reduce the impact of heavy machinery in wetlands or other sensitive or soft areas.
WHERE APPLICABLE	● Shallow wetlands. ● Soft soils or other sensitive areas.
ADVANTAGES	● Allows access through shallow wetlands or other sensitive areas. ● Minimizes adverse impacts to wetlands or other sensitive areas by more evenly distributing the weight.
CONSTRAINTS	● Only useful with machinery equipped with a boom such as a back hoe or drag line. ● Minor soil displacement is inevitable.
DESIGN AND CONSTRUCTION GUIDELINES	<p>Materials</p> <ul style="list-style-type: none"> ● 4 drag line mats, each constructed from 5 pieces of 20' long, 12" x 12" treated wooden beams cabled together. <p>Installation</p> <ul style="list-style-type: none"> ● 2 drag line mats are placed in front of the machinery so that each mat is centered by each tractor tread, and two mats are placed behind the machinery. ● Machinery operator drives onto mats in front of the machine. ● Machinery operator uses boom to lift the two mats behind the

T.O.C.

machine, and lines them up in front of the mats the machine is on.

- Operator drives onto the two mats just placed in front of the mats the machine is on.
- Operator uses boom to retrieve the 2 mats now behind the machine, and places them in front of the machine as described above.
- Piggy back process continues until operator reaches the final destination.

Special Considerations

- Only useful if water is ≤ 6 " deep.

MAINTENANCE

- Periodically inspect the mats to make sure they maintain their structural integrity.

REFERENCES

Related Practices

- Practice 901 Culverts.
- Practice 902 Bridges.
- Practice 903 Fords/Low Water Crossings.

Other Sources of Information

- CBBEL Files.
-

Last Print/Revision Date: October 13, 1996

POTENTIAL BIDDERS
2016 STONEY RUN DITCH MIDDLE BRANCH-LATERAL NO. 4
145TH AVENUE FOR APPROXIMATELY 400 FEET
WINFIELD TWP., LAKE COUNTY, IN

DELTA III
2063 W. 1250 S
Hanna, IN 46340

\$ 46,021.50

R.A. OROS
8244 Greenwood Avenue
Munster, IN 46321

\$ _____

GARIUP CONSTRUCTION CO.
24121 Whitcomb Street
Lowell, IN 46356

\$ _____

GOUGH, INC.
2200 E. 88th Drive
Merrillville, IN 46410

\$ _____

AUSTGEN EQUIPMENT
11309 Broadway, Suite C3
Crown Point, IN 46307

\$ _____

10-13-4
6-15-16



Office of the Lake County Surveyor

Lake County Government Center • 2293 North Main Street • Crown Point, Indiana 46307
Phone: (219) 755-3745 • Fax: (219) 755-3750

Bill Emerson, Jr.
County Surveyor

ADDENDUM NO. 1

2016 Stoney Run Ditch Middle Branch – Lateral No. 4 Maintenance 145th Avenue northerly 400'

Question Received:

1. Can a copy of the Lake County ditch maintenance Contract be provided?

Response to Question:

1. The standard Lake County Contract is attached to this Addendum.



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Bill Emerson, Jr.
County Surveyor

CONTRACT# _____

PROJECT NAME: _____

This CONTRACT is made and entered into this _____th day of MONTH, 2016 by and between _____, a(n) INDIANA Corporation hereinafter referred to as the "Contractor" and the Lake County Drainage Board, hereinafter referred to as the "Board".

NOW, THEREFORE, in consideration of the mutual promises contained herein, the Board and the Contractor do hereby mutually agree as follows:

I. SCOPE OF WORK

The Contractor shall provide the project services as described herein in Attachment A; in the approved plans and specifications, and any modifications or addenda thereof, which are attached hereto or otherwise incorporated herein by reference; in the terms contained in any permits obtained or not yet approved and any monies to be received from contributing municipalities; and in the Contractor's bid/response and any supplemental responses, and subsequent negotiations arising therefrom, all of which is incorporated herein by reference. Where there is an inconsistency between these terms, the term that is most beneficial to the Board shall control.

The Contractor shall perform the work covered by this Contract under the supervision of the Lake County Surveyor and/or its designee.

The Contractor shall comply with all plans, specifications, terms and conditions of this Contract. Deviation from said plans, specifications, terms or conditions shall be a basis for an immediate cease and desist notice of said unauthorized activity by the Board or the Lake County Surveyor's Office and, where appropriate as determined by the Board or the Lake County Surveyor's Office, cease and desist of contract activity until further action taken by the Board at its next public meeting.

The scope of work occurs on private property and/or within and upon a regulated drain and its easement as authorized by statute. The Contractor has the authority to keep unauthorized persons from the job site in order to avoid any potential liability arising therefrom. Should such persons fail to leave said site, the Contractor is to immediately contact the Lake County Surveyor's office, who may contact the Lake County Sheriff to maintain a safe work site and limit any liability of Lake County or the Contractor for any alleged claims or damages.

Soil Conditions

The Contractor agrees to accept full responsibility for its conclusions relative to the nature and probable difficulties of the work due to underground structures and soil conditions.

The results of subsurface soil investigations shown on the drawings or given in the specifications are for general information only. Neither the Lake County Drainage Board nor the engineer guarantees that materials other than those given in this information will not be encountered or that the proportions of the various materials will not vary from the information indicated on the plans or given in the specifications.

The Contractor shall be responsible for making its own subsurface soil investigations and shall make its own determinations from the investigations. The Contractor waives all claims for damages which it may suffer by reason of the inadequacies or discrepancies of the underground information shown on the plans or provided in the specifications. No compensation will be paid to the Contractor due to inadequacies or discrepancies in subsurface data furnished by Lake County Drainage Board or by the engineer.

Materials

No materials of any kind shall be used until they have been examined by the Lake County Surveyor or his engineer or other person authorized by the Lake County Surveyor, who shall have full power to condemn any work or materials not in accordance with these specifications, and to require the Contractor to remove any work or materials so condemned, and at the contractor's own expense to replace such condemned work or materials to the Lake County Surveyor or his engineer's satisfaction. The decision of the Lake County Surveyor or his engineer shall be final as to quality of workmanship and materials.

Clean up

During the time that the work is in progress the Contractor shall make every effort to maintain the site in a neat and orderly condition. All refuse, broken pipe, excess fill material, cribbing, etc., shall be removed as soon as practicable. Should the work not be maintained in a satisfactory condition the Lake County Surveyor or his engineer, or other person authorized by the Lake County Surveyor may cause the work to stop until the "clean-up" portion of the work has been done to the satisfaction of the Lake County Surveyor and/or its engineer.

The work will not be considered complete and the final payment certificate issued until all rubbish, unused material or equipment due to or connected with it shall have been removed and the premises left in a condition satisfactory to the Lake County Surveyor and/or its engineer.

II. PAYMENT OF SERVICE

- a. For the services rendered by the Contractor, the Board shall pay to the Contractor the sum of _____ (\$ _____), payable in accordance with the attached "Schedule of Payments".
- b. No payment under paragraph (a) above shall be made until:
 - (1) The Lake County Surveyor has filed with the Board a written report approving the work performed by Contractor as required under this contract.
 - (2) The Contractor shall have filed with the Board a waiver of lien and verified statement that all expenses incurred for labor, material, and suppliers have been paid in full.
- c. Billing for the services rendered under this contract shall be in the form and manner prescribed by the State of Indiana and the Board.

- d. Approval of payment claims shall be made at a regular Board Meeting. Should there be a dispute regarding any invoice or payment thereof, the party raising the dispute shall notify the other party upon discovery thereof. Payment of any invoice shall not be a waiver of any right associated with a dispute with the invoice or payment, and any future payment may be modified accordingly to rectify any discovered discrepancy.
- e. Fifteen percent (15%) of the contract price shall be withheld by the Board for a period of 60 days after completion of the work and its acceptance by the Lake County Surveyor for the purpose of securing payment of suppliers, laborers, and subcontractors, if any. However, if the Contractor files waivers of lien from all subcontractors, suppliers and laborers of this project, the 15% retainage may be paid along with the final payment under this contract.
- f. The sources of funds for payment under this Contract is the Lake County Drainage Board and/or such other applicable and appropriate sources of funds as apply to the scope of work to be performed on behalf of the approved budget for this specific project, and more specifically the line item therein for the payment of these services. By execution of this Contract the Lake County Drainage Board or Lake County is not agreeing to use funds other than the funds in the budget for the purposes enunciated herein. The sources are restricted to those funds which have been appropriated for this purpose by the Lake County Council as applicable and approved by the Department of Local Government Finance, the State Board of Accounts and/or State Board of Tax Commissioners, as applicable. In this regard this Contract may be terminated, in whole or in part, when the Lake County Auditor makes a written determination that the funds are not appropriated or otherwise available to support continuation of performance. Such determination shall be final and conclusive. Notice shall be given to the Contractor as soon as the Board is aware of such a situation. However, the Board will make good faith efforts to provide funding for this Contract, and if such funding is available and appropriated, the Board shall fulfill its financial obligation, subject to all terms and conditions herein.

III. SUBLETTING AND ASSIGNMENT OF CONTRACT

No portion of the Contract shall be sublet, assigned or otherwise disposed of, except with the written consent of the Board. Consent to sublet, assign, or otherwise dispose of any portion of the Contract shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the Contract.

IV. SUCCESSORS AND ASSIGNEES

The Contractor binds its successors, executors, administrators and assignees to all covenants of this Contract. The Contractor shall not assign, sublet or transfer its interest in this Contract without the prior written consent of the Board, except as above set forth.

V. TERM OF CONTRACT

Time is of the essence. The Contractor shall complete the work under and pursuant to this Contract within 180 days, including Saturdays, Sundays, and holidays. Should the Contractor fail to do so, the Lake County Drainage Board is entitled to and may retain, from compensation otherwise to be paid, or may otherwise pursue payment thereof, One Hundred Dollars (\$100.00) for each day, Sundays and holidays not included, that the work remains uncompleted beyond

the specified period, which sum is agreed on as the proper measure of liquidated damages that Board will sustain by the failure of contractor to complete the work in the time stipulated, and this sum is not to be construed in any sense as a penalty.

When good cause for a delay in the work is shown by the Contractor, the Lake County Surveyor shall determine the seriousness of the delay and extend the time of completion of the work accordingly and in his sole discretion. Such good cause may include, but is not limited to, changes in the work, strikes, lockouts, or other labor disputes; fire, earthquake, or other natural disasters; unavoidable casualty or damage to personnel, materials, or equipment; delay in receiving materials or equipment; acts or neglect of the Board, the Board's representative, or an employee of either; acts or neglect of another Contractor employed by the Board, or any other person not directly responsible to Contractor; or other such similar cause beyond the control of the Contractor.

Any claim by Contractor for an extension of time must be made in writing to the Lake County Surveyor not more than one (1) day following the development of the cause for delay. However, in the case of a continuing cause of delay, only one claim need be made. Whenever the Lake County Surveyor or its representative in his or her own discretion determines that circumstances warrant an extension of time, he or she may grant such an extension until a claim of delay has been submitted by the Contractor.

VI. CHOICE OF LAW

This Contract shall be construed in accordance with and governed by the laws of the State of Indiana and suit, if any must be brought in Lake County, State of Indiana.

VII. INSURANCE/SECURITY/INDEMNITY

The Contractor shall carry or require that there be carried Workmen's Compensation Insurance for all its employees and those of its subcontractors in accordance with state or territorial Workmen's Compensation laws.

The Contractor shall carry or require that there be carried public liability and property damage insurance in amounts as outlined in IC 34-4-16.5-1 et. seq. to protect the Board and County, the Contractor and its subcontractors from claims which may arise from work under this Contract. The Board shall be named as an additional insured and be fully protected thereunder.

All insurance as required herein shall be effective for acts occurring during and shall be maintained during the entire life of this Contract.

The Contractor shall maintain during the term of the Contract a performance bond, payable to the Lake County Drainage Board, providing security for the Contractor's performance obligations in the amount of the Contract. Said bond may be reduced to an amount not less than the amount of the remaining item costs in said Contract.

The Contractor agrees to indemnify and hold harmless Lake County, the Lake County Drainage Board, the Lake County Surveyor, its officials, its departments, its boards, its employees, and its agents and assigns against all actions, claims or demands for damages of any kind whatsoever, known or unknown, which may in any way be caused by the negligent acts of the Contractor, including but not limited to the negligent digging up of streets, alleys or public grounds, and by

improper care of trees and shrubbery, or which may result from the default, carelessness or negligence of the Contractor, its agents, employees or workers under its control or direction in the performance of the work described herein, and shall refund and reimburse to the Lake County Drainage Board all sums which it may be obligated or adjudged to pay on any such claims or demands immediately upon such determination.

VIII. REMEDIES UPON DEFAULT

If either party of this Contract shall be in default of any of the terms and conditions hereof, the party complaining of the default shall notify the defaulting party in writing of the default complained of, and the defaulting party shall have ten (10) days from the date of receipt of said written notification in which to cure the default complained of therein. Only after the expiration of the ten (10) day period described herein may the parties resort to legal proceedings to enforce any of the terms and conditions of this Contract or to collect damages in a court of competent jurisdiction.

Should the Contractor be cited on three or more occasions by the Lake County Surveyor or Contract Engineer on the project, the Contract is subject to termination for cause, as determined by the Board at a public meeting.

IX. EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION

The Contractor agrees by the execution of this contract that in regards to its operations:

- a. No person shall, on the grounds of race, color, national origin or sex, be excluded from participation or be denied the benefits thereof, or be subject to discrimination.
- b. The principals of equal opportunity in employment and delivery of services are applicable and the contractor commits to a policy and practice of nondiscrimination and affirmative action based upon age, military service, ancestry, color, national origin, physical handicap, political affiliation, race, religion and **sex**.
- c. The provisions of the Affirmative Action Program adopted by the Board of Commissioners of the County of Lake on May 31, 1977, as applicable, are incorporated by reference as part of this Contract.
- d. The provisions of all Federal Civil Rights laws and the Indiana Civil rights laws as applicable are incorporated by reference as part of this Contract.
- e. Breach of any of the equal opportunity and/or the nondiscrimination provisions of the Contract may be regarded as a material breach of the Contract.
- f. Where applicable, nondiscriminatory clauses and affirmative action clauses shall be made a part of any agreement, contract or lease between Contractor and any organization, corporation, subcontractor or other legal entity that benefits from the funds paid to contractor by this Contract.

X. LIMITATION OF AUTHORITY

The Contractor has no authority to obligate the Board on any contract or agreement of any kind, character or nature, nor for any expense, except as otherwise delineated in this Contract.

XI. PERSONNEL/INDEPENDENT CONTRACTOR

The Contractor represents that he has, or will secure at his own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the

Board. All of the services required hereunder will be performed by the Contractor or under his supervision, and all personnel engaged in the work shall be fully qualified to perform such services.

XII. ADDITIONAL SERVICES

In the event that any additional services are required of the Contractor that are over and above those described in the Contract and attachments hereto, the services shall not be performed without the express prior written agreement between the Board and Contractor. The scope of additional services and fees to be charged shall be specified in any such written authorization.

XIII. SUBSTANTIAL PERFORMANCE

This Contract shall be deemed to have been substantially performed only when fully performed according to its terms and conditions and any modification thereof.

XIV. WAIVER OF RIGHTS

No right conferred on either party under this Contract shall be deemed waived and no breach of this Contract excused, unless such waive or excuse shall be in writing and signed by the party claimed to have waived such right.

XV. E-VERIFICATION

- A. IC 22-5-1.7 Chapter 1.7. Public Contract Services, Business Entities; Unauthorized Aliens.
- B. IC 22-5-1.7.2 "Contractor" As used in this chapter, "contractor" means a person that has or is attempting to enter into a public contract for services with a state agency or political subdivision.
- C. IC 22-5-1.7-3 "E-Verify program" As used in this chapter, "E-Verify program" means the electronic verification of work authorization program of the Illegal Immigration Reform and Immigration Responsibility Act of 1996 (P.L. 104-208), Division C, Title IV,s. 403(a), as amended, operated by the United States Department of Homeland Security or a successor work authorization program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work authorization status of newly hired employees under the Immigration Reform and Control.
- D. IC 22-5-1.7-4 "Person" As used in this chapter, "person" means an individual, a corporation, a limited liability company, a partnership, or another legal entity.
- E. IC 22-5-1.7-5 "Political subdivision" As used in this chapter, "political subdivision" has the meaning set forth in IC 36-1-2-13.
- F. IC 22-5-1.7-6 "Public contract for services" As used in this chapter, "public contract for services" means any type of agreement between a state agency or a political subdivision and a contractor for the procurement of services.
- G. IC 22-5-1.7-9 "Unauthorized alien" As used in this chapter, "unauthorized alien" has the meaning set forth in 8 U.S.C. 1324a(h)(3).
- H. IC 22-5-1.7-11 Contractors with public contract for services required to use E-Verify program; business entities that receive certain grants required to use E-Verify program Sec. 11.
 - a. This subsection applies only to a public contract for services entered into or renewed after June 30, 2011. A state agency or political subdivision may not enter into or renew a public contract for services with a contractor unless:
 - 1. the public contract contains:

- A. a provision requiring the contract to enroll in and verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program; and
- B. a provision that provides that a contractor is not required to verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program if the E-Verify program no longer exists; and
- 2. the contractor signs an affidavit affirming that the contractor does not knowingly employ an unauthorized alien.
- b. A state agency or political subdivision may not award a grant of more than one thousand dollars (\$1,000) to a business entity unless the business entity:
 - 1. signs a sworn affidavit that affirms that the business entity has enrolled and is participating in the E-Verify program;
 - 2. provides documentation to the state agency or political subdivision that the business entity has enrolled and is participating in the E-Verify program; and
 - 3. signs an affidavit affirming that the business entity does not knowingly employ an unauthorized alien
- I. IC 22-5-1.7-15 Certification by subcontractor. If a contractor uses a subcontractor to provide services for work the contractor is performing under a public contract for services, the subcontractor shall certify to the contractor in a manner consistent with federal law that the subcontractor, at the time of certification:
 - 1. does not knowingly employ or contract with an unauthorized alien; and
 - 2. has enrolled and is participating in the E-Verify program.
- J. Affidavit by Contractor. By execution of this contract I swear under the penalties of perjury that my company does not knowingly employ an unauthorized alien.

XVI. MISCELLANEOUS PROVISIONS

This Contract represents the entire understanding between the parties, and modifications of this Contract shall not be effective unless reduced to writing and signed by both parties. In the event any portion or portions of this Contract are found to be void or voidable portions, these portions shall be stricken and the remaining portions enforced.

All provisions of State Law applicable to the County and/or governmental entity or entities which is/are a party to this Contract are incorporated by reference as a part of this contract.

In the event this Contract is not fully executed and approved prior to the date of commencement, it shall be deemed retroactive in force and effect to the date of commencement upon and after the full execution, approvals, required filing and recordation.

XVII. TERMINATION

Termination of Agreement. The County shall have the right to terminate this Contract, with or without cause, by giving written notice to the Consultant of such termination and specifying the effective date thereof, at least fourteen (14) days before the effective date of such termination. In addition, the Consultant may, for any cause, also terminate this Contract by giving written notice to the Lake County Surveyor of such termination and specifying the effective date thereof, at least fourteen (14) days before the effective date of such termination.

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed by their duly authorized officers on the day and date first above written.

LAKE COUNTY DRAINAGE BOARD

CONTRACTOR

GERRY SCHEUB, CHAIRMAN

PRINTED NAME - TITLE

KYLE ALLEN, SR., MEMBER

ADDRESS

MICHAEL C. REPAY, MEMBER

CITY, STATE, ZIP CODE

LAKE COUNTY SURVEYOR

PHONE NUMBER

WILLIAM EMERSON, JR.

SIGNATURE

EMAIL

ATTEST: _____
MARY ELLEN KUPSIK, SECRETARY,
LAKE COUNTY DRAINAGE BOARD

Contract prepared by: Clifford E. Duggan, Jr., Legal Advisor, Lake County Surveyor's Office, Lake County, IN



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Bill Emerson, Jr.
County Surveyor

“SCHEDULE OF PAYMENTS”

CONTRACT # _____

Project Name

1. Year 2016 \$

2. Year 2017 \$

TOTAL: \$



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Bill Emerson, Jr.
County Surveyor

CONTRACT #2016-K-4

**PROJECT NAME: 2016 STONEY RUN DITCH LATERAL NO. 4
145TH AVENUE FOR APPROXIMATELY 400 FEET**

AMOUNT: \$46,021.50

This CONTRACT is made and entered into this 15TH day of JUNE of 2016 by and between DELTA III, INC., a(n) INDIANA Corporation hereinafter referred to as the "Contractor" and the Lake County Drainage Board, hereinafter referred to as the "Board".

NOW, THEREFORE, in consideration of the mutual promises contained herein, the Board and the Contractor do hereby mutually agree as follows:

I. SCOPE OF WORK

The Contractor shall provide the project services as described herein in Attachment A; in the approved plans and specifications, and any modifications or addenda thereof, which are attached hereto or otherwise incorporated herein by reference; in the terms contained in any permits obtained or not yet approved and any monies to be received from contributing municipalities; and in the Contractor's bid/response and any supplemental responses, and subsequent negotiations arising therefrom, all of which is incorporated herein by reference. Where there is an inconsistency between these terms, the term that is most beneficial to the Board shall control.

The Contractor shall perform the work covered by this Contract under the supervision of the Lake County Surveyor and/or its designee.

The Contractor shall comply with all plans, specifications, terms and conditions of this Contract. Deviation from said plans, specifications, terms or conditions shall be a basis for an immediate cease and desist notice of said unauthorized activity by the Board or the Lake County Surveyor's Office and, where appropriate as determined by the Board or the Lake County Surveyor's Office, cease and desist of contract activity until further action taken by the Board at its next public meeting.

The scope of work occurs on private property and/or within and upon a regulated drain and its easement as authorized by statute. The Contractor has the authority to keep unauthorized persons from the job site in order to avoid any potential liability arising therefrom. Should such persons fail to leave said site, the Contractor is to immediately contact the Lake County Surveyor's office, who may contact the Lake County Sheriff to maintain a safe work site and limit any liability of Lake County or the Contractor for any alleged claims or damages.

Soil Conditions

The Contractor agrees to accept full responsibility for its conclusions relative to the nature and probable difficulties of the work due to underground structures and soil conditions.

The results of subsurface soil investigations shown on the drawings or given in the specifications are for general information only. Neither the Lake County Drainage Board nor the engineer guarantees that materials other than those given in this information will not be encountered or that the proportions of the various materials will not vary from the information indicated on the plans or given in the specifications.

The Contractor shall be responsible for making its own subsurface soil investigations and shall make its own determinations from the investigations. The Contractor waives all claims for damages which it may suffer by reason of the inadequacies or discrepancies of the underground information shown on the plans or provided in the specifications. No compensation will be paid to the Contractor due to inadequacies or discrepancies in subsurface data furnished by Lake County Drainage Board or by the engineer.

Materials

No materials of any kind shall be used until they have been examined by the Lake County Surveyor or his engineer or other person authorized by the Lake County Surveyor, who shall have full power to condemn any work or materials not in accordance with these specifications, and to require the Contractor to remove any work or materials so condemned, and at the contractor's own expense to replace such condemned work or materials to the Lake County Surveyor or his engineer's satisfaction. The decision of the Lake County Surveyor or his engineer shall be final as to quality of workmanship and materials.

Clean up

During the time that the work is in progress the Contractor shall make every effort to maintain the site in a neat and orderly condition. All refuse, broken pipe, **excess** fill material, cribbing, etc., shall be removed as soon as practicable. Should the work not be maintained in a satisfactory condition the Lake County Surveyor or his engineer, or other person authorized by the Lake County Surveyor may cause the work to stop until the "clean-up" portion of the work has been done to the satisfaction of the Lake County Surveyor and/or its engineer.

The work will not be considered complete and the final payment certificate issued until all rubbish, unused material or equipment due to or connected with it shall have been removed and the premises left in a condition satisfactory to the Lake County Surveyor and/or its engineer.

II. PAYMENT OF SERVICE

- a. For the services rendered by the Contractor, the Board shall pay to the Contractor the sum of **FORTY-SIX THOUSAND, TWENTY-ONE DOLLARS AND 50/100THS (\$46,021.50)**, payable in accordance with the attached "Schedule of Payments".
- b. No payment under paragraph (a) above shall be made until:

- (1) The Lake County Surveyor has filed with the Board a written report approving the work performed by Contractor as required under this contract.
 - (2) The Contractor shall have filed with the Board a waiver of lien and verified statement that all expenses incurred for labor, material, and suppliers have been paid in full.
- c. Billing for the services rendered under this contract shall be in the form and manner prescribed by the State of Indiana and the Board.
 - d. Approval of payment claims shall be made at a regular Board Meeting. Should there be a dispute regarding any invoice or payment thereof, the party raising the dispute shall notify the other party upon discovery thereof. Payment of any invoice shall not be a waiver of any right associated with a dispute with the invoice or payment, and any future payment may be modified accordingly to rectify any discovered discrepancy.
 - e. Fifteen percent (15%) of the contract price shall be withheld by the Board for a period of 60 days after completion of the work and its acceptance by the Lake County Surveyor for the purpose of securing payment of suppliers, laborers, and subcontractors, if any. However, if the Contractor files waivers of lien from all subcontractors, suppliers and laborers of this project, the 15% retainage may be paid along with the final payment under this contract.
 - f. The sources of funds for payment under this Contract is the Lake County Drainage Board and/or such other applicable and appropriate sources of funds as apply to the scope of work to be performed on behalf of the approved budget for this specific project, and more specifically the line item therein for the payment of these services. By execution of this Contract the Lake County Drainage Board or Lake County is not agreeing to use funds other than the funds in the budget for the purposes enunciated herein. The sources are restricted to those funds which have been appropriated for this purpose by the Lake County Council as applicable and approved by the Department of Local Government Finance, the State Board of Accounts and/or State Board of Tax Commissioners, as applicable. In this regard this Contract may be terminated, in whole or in part, when the Lake County Auditor makes a written determination that the funds are not appropriated or otherwise available to support continuation of performance. Such determination shall be final and conclusive. Notice shall be given to the Contractor as soon as the Board is aware of such a situation. However, the Board will make good faith efforts to provide funding for this Contract, and if such funding is available and appropriated, the Board shall fulfill its financial obligation, subject to all terms and conditions herein.

III. SUBLETTING AND ASSIGNMENT OF CONTRACT

No portion of the Contract shall be sublet, assigned or otherwise disposed of, except with the written consent of the Board. Consent to sublet, assign, or otherwise dispose of any portion of the Contract shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the Contract.

IV. SUCCESSORS AND ASSIGNEES

The Contractor binds its successors, executors, administrators and assignees to all covenants of this Contract. The Contractor shall not assign, sublet or transfer its interest in this Contract without the prior written consent of the Board, except as above set forth.

V. TERM OF CONTRACT

Time is of the essence. The Contractor shall complete the work under and pursuant to this Contract within 180 days, including Saturdays, Sundays, and holidays. Should the Contractor fail to do so, the Lake County Drainage Board is entitled to and may retain, from compensation otherwise to be paid, or may otherwise pursue payment thereof, One Hundred Dollars (\$100.00) for each day, Sundays and holidays not included, that the work remains uncompleted beyond the specified period, which sum is agreed on as the proper measure of liquidated damages that Board will sustain by the failure of contractor to complete the work in the time stipulated, and this sum is not to be construed in any sense as a penalty.

When good cause for a delay in the work is shown by the Contractor, the Lake County Surveyor shall determine the seriousness of the delay and extend the time of completion of the work accordingly and in his sole discretion. Such good cause may include, but is not limited to, changes in the work, strikes, lockouts, or other labor disputes; fire, earthquake, or other natural disasters; unavoidable casualty or damage to personnel, materials, or equipment; delay in receiving materials or equipment; acts or neglect of the Board, the Board's representative, or an employee of either; acts or neglect of another Contractor employed by the Board, or any other person not directly responsible to Contractor; or other such similar cause beyond the control of the Contractor.

Any claim by Contractor for an extension of time must be made in writing to the Lake County Surveyor not more than one (1) day following the development of the cause for delay. However, in the case of a continuing cause of delay, only one claim need be made. Whenever the Lake County Surveyor or its representative in his or her own discretion determines that circumstances warrant an extension of time, he or she may grant such an extension until a claim of delay has been submitted by the Contractor.

VI. CHOICE OF LAW

This Contract shall be construed in accordance with and governed by the laws of the State of Indiana and suit, if any must be brought in Lake County, State of Indiana.

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The Contractor shall carry or require that there be carried Workmen's Compensation Insurance for all its employees and those of its subcontractors in accordance with state or territorial Workmen's Compensation laws.

The Contractor shall carry or require that there be carried public liability and property damage insurance in amounts as outlined in IC 34-4-16.5-1 et. seq. to protect the Board and County, the Contractor and its subcontractors from claims which may arise from work under this Contract. The Board shall be named as an additional insured and be fully protected thereunder.

All insurance as required herein shall be effective for acts occurring during and shall be maintained during the entire life of this Contract.

The Contractor shall maintain during the term of the Contract a performance bond, payable to the Lake County Drainage Board, providing security for the Contractor's performance obligations in the amount of the Contract. Said bond may be reduced to an amount not less than the amount of the remaining item costs in said Contract.

The Contractor agrees to indemnify and hold harmless Lake County, the Lake County Drainage Board, the Lake County Surveyor, its officials, its departments, its boards, its employees, and its agents and assigns against all actions, claims or demands for damages of any kind whatsoever, known or unknown, which may in any way be caused by the negligent acts of the Contractor, including but not limited to the negligent digging up of streets, alleys or public grounds, and by improper care of trees and shrubbery, or which may result from the default, carelessness or negligence of the Contractor, its agents, employees or workers under its control or direction in the performance of the work described herein, and shall refund and reimburse to the Lake County Drainage Board all sums which it may be obligated or adjudged to pay on any such claims or demands immediately upon such determination.

VIII. REMEDIES UPON DEFAULT

If either party of this Contract shall be in default of any of the terms and conditions hereof, the party complaining of the default shall notify the defaulting party in writing of the default complained of, and the defaulting party shall have ten (10) days from the date of receipt of said written notification in which to cure the default complained of therein. Only after the expiration of the ten (10) day period described herein may the parties resort to legal proceedings to enforce any of the terms and conditions of this Contract or to collect damages in a court of competent jurisdiction.

Should the Contractor be cited on three or more occasions by the Lake County Surveyor or Contract Engineer on the project, the Contract is subject to termination for cause, as determined by the Board at a public meeting.

IX. EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION

The Contractor agrees by the execution of this contract that in regards to its operations:

- a. No person shall, on the grounds of race, color, national origin or sex, be excluded from participation or be denied the benefits thereof, or be subject to discrimination.
- b. The principals of equal opportunity in employment and delivery of services are applicable and the contractor commits to a policy and practice of nondiscrimination and affirmative action based upon age, military service, ancestry, color, national origin, physical handicap, political affiliation, race, religion and sex.
- c. The provisions of the Affirmative Action Program adopted by the Board of Commissioners of the County of Lake on May 31, 1977, as applicable, are incorporated by reference as part of this Contract.
- d. The provisions of all Federal Civil Rights laws and the Indiana Civil rights laws as applicable are incorporated by reference as part of this Contract.
- e. Breach of any of the equal opportunity and/or the nondiscrimination provisions of the Contract may be regarded as a material breach of the Contract.
- f. Where applicable, nondiscriminatory clauses and affirmative action clauses shall be made a part of any agreement, contract or lease between Contractor and any organization, corporation, subcontractor or other legal entity that benefits from the funds paid to contractor by this Contract.

X. LIMITATION OF AUTHORITY

The Contractor has no authority to obligate the Board on any contract or agreement of any kind, character or nature, nor for any expense, except as otherwise delineated in this Contract.

XI. PERSONNEL/INDEPENDENT CONTRACTOR

The Contractor represents that he has, or will secure at his own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the Board. All of the services required hereunder will be performed by the Contractor or under his supervision, and all personnel engaged in the work shall be fully qualified to perform such services.

XII. ADDITIONAL SERVICES

In the event that any additional services are required of the Contractor that are over and above those described in the Contract and attachments hereto, the services shall not be performed without the express prior written agreement between the Board and Contractor. The scope of additional services and fees to be charged shall be specified in any such written authorization.

XIII. SUBSTANTIAL PERFORMANCE

This Contract shall be deemed to have been substantially performed only when fully performed according to its terms and conditions and any modification thereof.

XIV. WAIVER OF RIGHTS

No right conferred on either party under this Contract shall be deemed waived and no breach of this Contract excused, unless such waive or excuse shall be in writing and signed by the party claimed to have waived such right.

XV. E-VERIFICATION

- A. IC 22-5-1.7 Chapter 1.7. Public Contract Services, Business Entities; Unauthorized Aliens.
- B. IC 22-5-1.7.2 "Contractor" As used in this chapter, "contractor" means a person that has or is attempting to enter into a public contract for services with a state agency or political subdivision.
- C. IC 22-5-1.7-3 "E-Verify program" As used in this chapter, "E-Verify program" means the electronic verification of work authorization program of the Illegal Immigration Reform and Immigration Responsibility Act of 1996 (P.L. 104-208), Division C, Title IV,s. 403(a), as amended, operated by the United States Department of Homeland Security or a successor work authorization program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work authorization status of newly hired employees under the Immigration Reform and Control.
- D. IC 22-5-1.7-4 "Person" As used in this chapter, "person" means an individual, a corporation, a limited liability company, a partnership, or another legal entity.
- E. IC 22-5-1.7-5 "Political subdivision" As used in this chapter, "political subdivision" has the meaning set forth in IC 36-1-2-13.
- F. IC 22-5-1.7-6 "Public contract for services" As used in this chapter, "public contract for services" means any type of agreement between a state agency or a political subdivision and a contractor for the procurement of services.
- G. IC 22-5-1.7-9 "Unauthorized alien" As used in this chapter, "unauthorized alien" has the meaning set forth in 8 U.S.C. 1324a(h)(3).

- H. IC 22-5-1.7-11 Contractors with public contract for services required to use E-Verify program; business entities that receive certain grants required to use E-Verify program Sec. 11.
 - a. This subsection applies only to a public contract for services entered into or renewed after June 30, 2011. A state agency or political subdivision may not enter into or renew a public contract for services with a contractor unless:
 - 1. the public contract contains:
 - A. a provision requiring the contract to enroll in and verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program; and
 - B. a provision that provides that a contractor is not required to verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program if the E-Verify program no longer exists; and
 - 2. the contractor signs an affidavit affirming that the contractor does not knowingly employ an unauthorized alien.
 - b. A state agency or political subdivision may not award a grant of more than one thousand dollars (\$1,000) to a business entity unless the business entity:
 - 1. signs a sworn affidavit that affirms that the business entity has enrolled and is participating in the E-Verify program;
 - 2. provides documentation to the state agency or political subdivision that the business entity has enrolled and is participating in the E-Verify program; and
 - 3. signs an affidavit affirming that the business entity does not knowingly employ an unauthorized alien
- I. IC 22-5-1.7-15 Certification by subcontractor. If a contractor uses a subcontractor to provide services for work the contractor is performing under a public contract for services, the subcontractor shall certify to the contractor in a manner consistent with federal law that the subcontractor, at the time of certification:
 - 1. does not knowingly employ or contract with an unauthorized alien; and
 - 2. has enrolled and is participating in the E-Verify program.
- J. Affidavit by Contractor. By execution of this contract I swear under the penalties of perjury that my company does not knowingly employ an unauthorized alien.

XVI. MISCELLANEOUS PROVISIONS

This Contract represents the entire understanding between the parties, and modifications of this Contract shall not be effective unless reduced to writing and signed by both parties. In the event any portion or portions of this Contract are found to be void or voidable portions, these portions shall be stricken and the remaining portions enforced.

All provisions of State Law applicable to the County and/or governmental entity or entities which is/are a party to this Contract are incorporated by reference as a part of this contract.

In the event this Contract is not fully executed and approved prior to the date of commencement, it shall be deemed retroactive in force and effect to the date of commencement upon and after the full execution, approvals, required filing and recordation.

XVII. TERMINATION

Termination of Agreement. The County shall have the right to terminate this Contract, with or without cause, by giving written notice to the Consultant of such termination and specifying the effective date thereof, at least fourteen (14) days before the effective date of such termination. In addition, the Consultant may, for any cause, also terminate this Contract by giving written notice to the Lake County Surveyor of such termination and specifying the effective date thereof, at least fourteen (14) days before the effective date of such termination.

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed by their duly authorized officers on the day and date first above written.

LAKE COUNTY DRAINAGE BOARD

CONTRACTOR



GERRY SCHEUB, CHAIRMAN

MICHAEL EATON, PRESIDENT



KYLE W. ALLEN, MEMBER

2063 WEST 1250 S



MICHAEL C. REPAY, MEMBER

Hanna, Indiana 46340
CITY, STATE, ZIP CODE

LAKE COUNTY SURVEYOR

219-797-4004
PHONE NUMBER



BILL EMERSON, JR.

E-MAIL

ATTEST: 
MARY ELLEN KUPSIK, SECRETARY,
LAKE COUNTY DRAINAGE BOARD

SUPPLEMENTAL BID PROPOSAL FORM (TO BE ATTACHED AND MADE PART OF FORM 96)

PROJECT: STONEY RUN DITCH MIDDLE BRANCH – LATERAL NO. 4 - 2014

The undersigned, having familiarized himself/herself/themselves with local contract documents, comprised of the following:

1. Project documents for the project known as STONEY RUN DITCH MIDDLE BRANCH – LATERAL NO. 4 - 2014, Little Calumet River Watershed, Lake County, Indiana.

The undersigned has carefully inspected the site of the proposed work and can perform the various items of work for the unit prices/lump sums stipulated. All prices listed include any incidental work that may be necessary to complete the project in accordance with the provisions of the plans and specifications, as may be amended.

Item No.	Description And Calculation	Unit	Quantity	Unit Price	Total
1	Log Jam Removal (Clearing and Snagging) STA 0+50 to STA 4+19 = 369 LFT	LFT	369	10.00	3,690. ⁰⁰
2	Channel Bottom Dipping (Sediment Removal) - STA 0+50 to STA 4+19 = 369 LFT (369')(2' avg.)(6' avg.) = 4,428cf / 27 = 164 CY	CY	164	75.00	12,300. ⁰⁰
3	Temporary Wetland Crossing (Drag Line Mat) <i>The areas listed below have wetlands located on both sides of the ditch. Spoil material shall not be placed in these areas. Spoil shall be placed upland (upstream or downstream) of all wetland areas. Machinery shall only cross these areas by means of temporary wetland crossings (drag line mat). Entry to these areas shall be through the narrowest point.</i> STA 0+50 to STA 2+75 = 225 LFT	LFT	225	100.00	22,500. ⁰⁰
4	Riprap Bank Protection (Pipe End Sections) STA 0+50 20 lf x 10 ft (avg.) x 1.5 ft = 20 TONS STA 4+19 20 lf x 10 ft (avg.) x 1.5 ft = 20 TONS	TON	40	75.00	3,000. ⁰⁰
5	Erosion Blanket (Special) Spoil Piles STA 2+50 to STA 4+19 = 169 LFT (169')(20') = 3,380 sf / 9 = 375 SY	SY	375	8.00	3,000. ⁰⁰
6	Mulched Seeding (stabilizing matrix species mix) Spoil Piles STA 2+50 to STA 4+19 = 169 LFT	AC	0.08	3000. ⁰⁰	240. ⁰⁰

	$(169')(20') = 3,380 \text{ sf} / 43,560 = 0.08 \text{ AC}$				
7	Silt Fence				
	STA 0+50 to STA 4+19 = 369 LFT	LFT	369	3.50	1291.50
Total Bid Price					\$ 46,021.50

BIDDERS PROPOSAL FOR MAKING ENTIRE IMPROVEMENT

\$ Forty-Six thousand twenty-one dollars + fifty cents
 (WORDS)

This proposal submitted this 15 day of June, 2016.

Corporate Name: Delta III, Inc.

Address: 2063 W 1250 S

Hanna, IN 46340

By: 

Title: President

NOTICE OF INTENT

Lagestee-Mulder (17005 Westview Avenue, South Holland, IL 60473) is submitting a Notice of Intent to the Indiana Department of Environmental Management of our intent to comply with the requirements of 327 IAC 15-5 to discharge storm water from construction activities associated with Providence Bank Subdivi-

sion located at the southwest corner of Calumet Avenue and 101st Avenue, St John, IN 46373. Runoff from the project site will discharge into a detention pond at the southwest corner of the site, and will eventually discharge into Bull Run Creek. Questions or comments regarding this project should be directed to Phil Mulder of Lagestee-Mulder. 6/6 - 20765421 - hspaxlp

6/6