

AGENDA

LAKE COUNTY DRAINAGE BOARD and ADVISORY COMMITTEE WEDNESDAY, OCTOBER 19, 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 W. 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. September 21, 2016**

5. Reports – Correspondence – Information for the Record

- A. Advisory Committee By Township**

B. Little Calumet River Watershed

1. Letter from Asst Drainage Admn Tom Regalado to County Surveyor Bill Emerson, Jr. and County Drainage Board Chairman Gerry Scheub regarding drainage at US Highway 30 and Clay Street.
2. Letter from Asst Drainage Admn Tom Regalado to County Surveyor Bill Emerson, Jr. regarding erosion on Hart Ditch in the Town of Munster.
3. Indiana Department of Natural Resources "Termination Notice" for "Construction in a Floodway" to Martin Yanovic regarding moving of Frog Creek, Hobart, IN.
4. Indiana Department of Natural Resources "Certificate of Approval" for "Construction in a Floodway" for IDNR regarding Grand Calumet River near Howard Street in Hammond, IN
5. Review letter from Thomas T. Burke, PhD, P.E., to Indiana Department of Transportation regarding "slip lining" culverts under I-65 near Turkey Creek.
6. Letter/Report from Asst Drainage Administrator Tom Regalado to County Surveyor Bill Emerson, Jr. regarding Clearing & Snagging Crew activity.
7. Other.

C. Kankakee River Watershed

1. **Singleton Ditch, Eagle Creek Twp.**
Letter from MS4 Compliance Inspector Chris Brown to County Surveyor Bill Emerson, Jr. regarding routine inspection of Singleton Stone.
2. Other

D. Current Projects - Little Calumet River Watershed

1. **Hart Ditch, St John Twp.** (State Line to US Highway 30, - Dyer)
 - Review and recommendation for approval of partial payment of \$20,635.07 from Senior Project manager Al Walus (CBBEL) Contractor: KDM Services
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 final payment of \$2,186.42 from Senior Project manager Al Walus (CBBEL) Contractor: KDM Services
4. **Turkey Creek Lateral No. 13 – Bank Stabilization, Schererville, St John Twp.**
5. **Main Beaver Dam Ditch, Center Twp.** (1423 Edgewater Road, Crown Point)
 - Letter from IDNR to Drainage Administrator Dan Gossman regarding "Certificate of Approval" for "Construction in a Floodway" from IDNR.
6. **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. **2016 Stoney Run Ditch Middle Branch Lateral No. 4 Maintenance, Winfield Twp.** (145th Avenue, Leroy)
5. **2016 Cedar Creek Maintenance, Cedar Creek Twp.** (Lake Dale to 171st Ave)
6. **2016 McConnell Ditch Maintenance, Cedar Creek Twp.** (Morse St to 171st Ave)
7. **2016 Singleton Ditch Maintenance, Cedar Creek & Eagle Creek Twps.** (Monon Rd to Mississippi St)
8. **Other**

6. Applications / Petitions

A. Hart Ditch / Plum Creek, St John Twp.

Applicant: Enbridge Energy, Limited Partnership

Application to "Perform Work" within regulated drain for the purpose of routine pipeline maintenance.

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

B. Mutual Drain Application I.C. 36-9-27.4

Applicant: Paul & Christine Gesiakowski

Petition to the Lake County Drainage Board regarding an alleged obstruction in a mutual drain.

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
5. Williams Street, Calumet Twp.
6. South County Sanitary Sewer Project with ACOE
7. Hawthorne Hills – Storm Sewer Video Inspection

B. MS4 Information and Correspondence

1. Agreement between Lake County Soil & Water Conservation District and the Lake County Surveyor's Office / MS4 Stormwater Quality Department
2. Inspection report from MS4 Compliance Inspector Chris Brown to County Surveyor Bill Emerson, Jr. regarding drainage concerns at 11818 Lee Street (Un-incorporated Crown Point).

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

1. 2016 Hart Ditch – Bank Stabilization, St John Twp. (Park Manor Dr, Dyer)
 - Approve plans and specifications for bank stabilization.

B. Kankakee River Watershed

1. 2016 Bruce Ditch – Emergency Bank Repair, West Creek Twp.
 - Invitation to Contractors for "Mandatory Meeting" with plans and specifications.

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. 2016 Turkey Creek Bank Stabilization, St John Twp. (Joliet Street to James Wittchen Drive, Schererville)**

The proposals opened were as follows:

R.A. Oros, Inc.	\$123,702.50
Austgen Equipment	\$ 85,126.00
Delta III, Inc.	\$ 99,913.00
Gariup Construction	\$147,500.00

B. Kankakee River Watershed

12. Other Business

A. Other

13. Adjournment

- A. The next meeting is scheduled for Wednesday November 17, 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 WEDNESDAY, SEPTEMBER 21, 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

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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

Members Present: Chairman **Gerry Scheub** and Board Member, **Michael C. Repay**, Board Member **Kyle W. Allen, Sr.** [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 **Jeremy Schmitt** and **Greg Lorig**, American Structurepoint.

3. Agenda

A. Additions, Deletions, and/or Corrections

Dan Gossman requested the following additions to the Agenda. Item Nos. 5-B-1 and 5-B-6, review letters from CBBEL; Item Nos. 5-E-5, 6 & 7, Notice of Awards; Item Nos. 6-A & B, review letters from engineering consultants; Item No. 6-C, Gesiakowski Drainage Application, and Item No. 11-A-1, Legal Memo. Motion to accept the above-stated additions were made by **Michael C. Repay**, seconded by **Kyle W. Allen, Sr.** Motion carried.

B. Permission to Open Bids/Proposals

Chairman Gerry Scheub requested permission for **Attorney Peter Katic** to open the bid proposals under Item No. 10-A-1 below. Motion to approve same was made by **Michael C. Repay**, seconded by **Kyle W. Allen, Sr.** Motion carried 3-0.

4. Minutes

A. August 17, 2016

Chairman Scheub requested approval of the **August 17, 2016 Minutes**. Motion to approve same was made by **Michael C. Repay**, seconded by **Kyle W. Allen, Sr.** Motion carried 3-0.

5. Reports – Correspondence – Information for the Record

A. Advisory Committee By Township

B. Little Calumet River Watershed

1. Letter from Indiana Department of Transportation regarding “slip lining” an existing culvert on I-65, 0.47 miles north of US 30.
*HANDOUT – CBBEL Review Letter to INDOT

Dan Gossman reported that Indiana Department of Transportation (“INDOT”) is proposing placing a slip liner in one of the pipes under I-65, which is in the Turkey Creek watershed where the Lake Drainage Board and Little Calumet River Basin Commission just recently cleared out. **Thomas Burke** of Christopher Burke Engineering (“CBBEL”) is reviewing same and has provided INDOT with comments that need to address (see attached “Handout” letter from CBBEL).

2. Indiana Department of Natural Resources (IDNR) “Certificate of Approval” to City of East Chicago regarding beach and dune restoration at Jeorse Park Beach.

Information Only.

3. Spring Street Ditch, Highland, North Twp.

- Letter from Spring Creek Condominium Association to County Surveyor regarding nuisance trees.
- Previous letter from Drainage Administrator Dan Gossman to County Surveyor Bill Emerson, Jr. regarding same concern.

Dan Gossman reported that the Spring Creek Condominium Association is requesting the County to trim trees that are touching their building and rubbing against their windows. We have advised them in the past that we do not do esthetic tree removal or trimming; only if any trees fall within our legal drain, will we remove those obstructions. **Surveyor Emerson, Jr.** has forwarded a response letter to explain same.

4. Schererville Ditch/Dyer Ditch/Teibel Ponds, Schererville, St John Twp.

- Letter from Attorney Daniel Blaney to County Surveyor Bill Emerson, Jr. regarding Stonebridge Estates drainage with Teibel Ponds.
- Response letter from Drainage Administrator Dan Gossman to Attorney Blaney.

Dan Gossman stated that this response letter to **Attorney Blaney** explains the history of the Teibel Ponds as to why they are there and their function. He reported that these ponds were constructed as part of a regional stormwater storage facility that was partially funded by INDOT as part of their highway improvements for the US 30 and US 41 corridors in 1995 and 1996. INDOT gave Lake County a little over \$600,000 to construct these ponds in lieu of having to construct some ponds in their right-of-ways, so their drainage goes to these ponds, as well as drainage from Schererville, St. John, and the lower portion of the Little Calumet Watershed. The Schererville Ditch, a County regulated drain, divides the two ponds. As the 1998 aerial shows, these ponds held a significant amount of stormwater; however, the 2013 aerial shows there is not much capacity as there was when designed in 1998. The ponds are owned by the Town of Schererville and they are now proposing to provide walking/hiking trails around the ponds and the Surveyor's Office will be working with the Town of Schererville to verify that the ponds/ditches current elevations are near to what they were designed for and constructed to do.

5. Letter/Report from Asst Drainage Administrator Tom Regalado to County Surveyor Bill Emerson, Jr. regarding Clearing & Snagging Crew activity.
6. *HANDOUT-CBBEL Review Letter regarding parking lot on Spring Street Ditch in Schererville.

Dan Gossman reported that in 2012 the County made repairs to the joints inside the concrete box culvert under this parking lot. **Thomas Burke (CBBEL)** reported that upon inspection, it is not the culvert, but the uneven settlement of the parking lot itself, which is not the responsibility of the County.

7. Other.

C. Kankakee River Watershed

1. Founders Creek, Cedar Creek Twp.

Letter from County Surveyor Bill Emerson, Jr. to US Army Corps of Engineers regarding Feasibility Report.

Information Only.

2. Indiana Department of Natural Resources (IDNR) "Certificate of Approval" for "Construction in a Floodway" to Cedar Lake Enhancement Association regarding bank stabilization on an inlet.

Information Only.

3. Letter from Drainage Administrator Dan Gossman to County Surveyor Bill Emerson, Jr. and Drainage Board Chairman Gerry Scheub regarding drainage in Pheasant Ridge Unit 2.

Dan Gossman reported that upon inspection, there are definitely drainage issues occurring with this property owner. He stated that he will be meeting onsite with **Duane Alverson** from Lake County Highway to further determine a solid solution in rectifying this stormwater runoff. He added that this repair would be a joint effort between the Lake County Highway and the County's MS4 Department.

4. Griesel Ditch Lateral No. 14, Cedar Creek Twp.

- Letter from Lowell MS4 Coordinator Greg White to County Surveyor Bill Emerson, Jr. regarding schedule of cleaning for Griesel Lateral No. 14.
- Response letter from County Surveyor Bill Emerson, Jr. to Greg White.

Dan Gossman reported that the Lake County Surveyor's Office is setting up a meeting with the Town of Lowell staff to discuss the progress and schedule ditch maintenance on the newly regulated drain, Griesel Lateral 14.

5. Stoney Run Ditch East Branch, Winfield & Eagle Creek Twps.

- Letter from Lakes of the Four Seasons Community Manager Richard Cleveland to County Surveyor Bill Emerson, Jr. regarding the drawdown of Lake Holiday into Stoney Run Ditch.
- Letter from Drainage Administrator Dan Gossman to County Surveyor Bill Emerson, Jr. regarding conditions for the LOFS drawdown of Lake Holiday into Stoney Run.

Information Only.

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

Information Only.

7. Other

D. Current Projects - Little Calumet River Watershed

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

Dan Gossman reported that this project is nearing completion. Waiting on vegetation to be established.

2. **Niles Ditch, Center & Winfield Twps.** (113th to Gibson Street)
3. **Cady Marsh Ditch - Highland, North Twp.** (Hart Ditch to Cline Ave, Highland)

Dan Gossman reported that this project is nearing completion. Waiting on vegetation to be established.

4. **Turkey Creek Lateral No. 13 – Bank Stabilization, Schererville, St John Twp.**
5. **Main Beaver Dam Ditch, Center Twp.** (1423 Edgewater Road, Crown Point)

[Relates to Item No. 11-A-1]

6. Other

Gerry Scheub requested that Item Nos. 5-B, C & D & E be made a "Matter of Public Record". Motion to make Item Nos. 5-B, C, & D a "Matter of Public Record" was made by **Kyle W. Allen, Sr.**, seconded by **Michael C. Repay**. Motion carried 3-0.

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)

Dan Gossman reported that work has begun on Item Nos. 5-E-1, 2 & 3.

4. **2016 Stoney Run Ditch Middle Branch Lateral No. 4 Maintenance, Winfield Twp.** (145th Avenue, Leroy)
 - Letter from IDNR to County Surveyor Bill Emerson, Jr. regarding “No Permit Required” from IDNR.

Dan Gossman reported that we are waiting on permits from Indiana Department of Environmental Management and the Army Corps of Engineers before moving forward.

5. **2016 Cedar Creek Maintenance, Cedar Creek Twp.** (Lake Dale to 171st Ave)
 - Letter from IDNR to County Surveyor Bill Emerson, Jr. regarding scheduling SEA.

HANDOUT-“Notice of Award”. Waiting on permits from Indiana Department of Natural Resources, Indiana Department of Environmental Management and the Army Corps of Engineers.

6. **2016 McConnell Ditch Maintenance, Cedar Creek Twp.** (Morse St to 171st Ave)

HANDOUT-“Notice of Award”. Waiting on permits from Indiana Department of Natural Resources, Indiana Department of Environmental Management and the Army Corps of Engineers.

7. **2016 Singleton Ditch Maintenance, Cedar Creek & Eagle Creek Twps.** (Monon Rd to Mississippi St)

HANDOUT-“Notice of Award”. Waiting on permits from Indiana Department of Natural Resources, Indiana Department of Environmental Management and the Army Corps of Engineers.

8. Other

Gerry Scheub requested that Item No. 5-E be made a “Matter of Public Record”. Motion to make Item No. 5-E be made a “Matter of Public Record” was made by **Kyle W. Allen, Sr.**, seconded by **Michael C. Repay**. Motion carried 3-0.

6. Applications / Petitions

A. Bull Run Ditch, St John Twp.

Applicant: Preserve, S.J., LLC

Agent: Jack Slager

Application to “Perform Work”, “Connect/Discharge Into”, and “Place Temporary /Permanent Structure” within regulated drain for the purpose of development of subdivision.

- Letter from County Surveyor Bill Emerson, Jr. to IDEM regarding Lake County review.

- Indiana Office of Environmental Adjudication order for Scheduling Prehearing Conference.
- Letter from Casboni Bros. regarding withdraw of objection to IDEM Section 401 Certification.

Dan Gossman explained that there was a Hearing set in Indianapolis with the Chief Environmental Law Judge. **Lake County Surveyor Bill Emerson, Jr.** reported prior to that Hearing, a meeting was held in the Lake County Surveyor's Office with property owners, the **Casboni Brothers**, the Developer's representative from the Preserve, **Jack Slager**, along with their Engineer, Manhard Engineering; **Commissioner Scheub**, Drainage Administrator **Dan Gossman**, along with the County's engineer consultant, **Jeremy Schmitt** from American Structurepoint, Inc. As a result of that meeting, the Casboni Brothers now have a better understanding of the drainage aspects of this development and withdrew their Objection Hearing with the Environmental Law Judge. **Surveyor Emerson, Jr.** thanked **Commissioner Scheub** for attending the meeting, stating that it was a very good meeting whereby the development was laid out in more detail by all parties and requested approval with the following eight (8) conditions recommended by American Structurepoint Inc.

1. Provide calculations showing the amount of compensatory storage that will be required for this project (1.5 times the volume of fill being added within the floodplain), as stated in the "No Net Loss Floodplain storage Policy", Chapter 3, Section 2.D. Compare this to the amount of compensator storage currently proposed.
2. Provide a copy to the Drainage Board of any Letter of Map Revision submitted to FEMA.
3. While completing the work, the applicant shall ensure that no construction debris of materials are placed within the ditch channel.
4. Excavated soil and other construction materials shall be stockpiled outside of the ditch channel and outside the top of banks of the ditch. Work within the drainage easement should be minimized to just the tasks necessary for completion of this project.
5. Outlets into Bull Run shall be constructed in accordance with INDOT standards for erosion protection and shall be permitted with the Indiana department of Natural Resources, as appropriate.
6. The contractor is responsible for successfully implementing the Soil Erosion and Sedimentation Control Plan included in the Project Plans.
7. All future phases of the project shall be submitted to Drainage Board for review before they are constructed
8. The applicant's design meets the Lake County Stormwater Ordinance requirements that general release rates do not exceed 0.2 cfs per acre of development. The applicant is only using 9.58 cfs of the total 34.56 cfs release rate allowed for this project.

Motion to approve with the above-stated conditions was made by **Michael C. Repay**, seconded by **Kyle W. Allen, Sr.** Motion carried 3-0.

Commissioner Scheub requested the Lake County Surveyor's Office provide him with a copy of IDEM's condition for this development

B. Hart Ditch / Plum Creek, St John Twp.

Applicant: Enbridge Energy, Limited Partnership

Application to "Perform Work" within regulated drain for the purpose of routine pipeline maintenance.

Thomas Burke (CBBEL) reported that currently the Applicant is showing stockpiling excavated material in a floodway, which is not permittable and he recommended deferral until they can figure out a way of getting the stockpiling outside of the floodway. Motion to defer was made by **Michael C. Repay**, seconded by **Kyle W. Allen, Sr.** Motion to defer carried 3-0.

A. HANDOUT-Gesiakowski Mutual Drain Application

Lake County Surveyor Bill Emerson, Jr. stated that standing water has continually been occurring on Blaine and 101st. and that the Town of St. John has cleared out the roadside ditches along Blaine Street to help in alleviating the standing water issue. He explained that the Petitioner's (Mr. Gesiakowski) property located in this area continually retains standing water and there appears to be some field tiles that are back flowing, so under Indiana Code 36-9-27.4, this is a Petition to declare this a mutual drain, under Drainage Board authority, and request that the county remove an obstruction in the mutual drain. **Attorney Cliff Duggan** explained that once Petition is filed, pursuant to the statute, the Surveyor gives a report of its findings to the Lake County Drainage Board, which will then determine how the Drainage Board would proceed. **Attorney Cliff Duggan** stated that the motion is to proceed with the Surveyor's Report and set a date for a Hearing and proceed under the statute. **Kyle W. Washington, Sr.** made a motion to proceed, per **Mr. Duggan** and Lake County Surveyor's recommendations, per the Statute dealing with this unregulated County drain, seconded by **Michael C. Repay**. Motion carried 3-0.

B. Other

7. MS4 Water Quality

A. Capital Projects Status Report

1. 41st Avenue Storm Sewer Project, Calumet Twp.

Lake County Surveyor Bill Emerson, Jr. reported that this project is being led by **Commissioner Repay** with the Surveyor's MS4 Department assisting with funds. CBBEL has been working with the Army Corps on some technical aspects of the project. He stated that the Army Corps claims to have \$12,000 leftover from the Hermits Lake Project, which they would like to apply towards this project. He added that bids for this project will be opened at today's Board of Commissioners' Meeting at 10:00 a.m.

2. 133rd Avenue / S.R. 55 Storm Drainage Project, Center Twp.

Lake County Surveyor Bill Emerson, Jr. reported that the Lake County Highway will be Petitioning the Drainage Board to reestablish the drain at this site in order to move forward on this project.

3. Upper Beaver Dam Ditch Storage/Water Quality Project

4. Willowdale Sanitary Sewer – Phase II & III

Lake County Surveyor Bill Emerson, Jr. reported that this project is finishing up and currently “as-built” surveys are being reviewed to verify their accuracy.

5. Williams Street, Calumet Twp.

Lake County Surveyor Bill Emerson, Jr. reported that the Lake County Highway Department has removed all the necessary trees at this location; however, we have not heard back from the contractor, Walsh & Kelly, who were going to assist us in completing this project. Surveyor Emerson, Jr. stated that County Highway will be completing the work.

6. South County Sanitary Sewer Project with ACOE

Lake County Surveyor Bill Emerson, Jr. reported that alternatives are being reviewed regarding various unincorporated subdivisions that have huge water quality (septic) issues and will keep this Board updated.

7. Hawthorne Hills – Storm Sewer Video Inspection

- Request for proposals from Drainage Administrator Dan Gossman for video inspection of storm sewers.

Lake County Surveyor Bill Emerson, Jr. reported that this is an area on Cedar Lake Road which has recently experienced significant drainage issues. Surveyor Emerson, Jr. stated that the property owners claim there is a collapsed storm sewer and he requested bid proposals to video tape the sewer line with bids due and be opened and award to the lowest, most responsive, responsible bidder tomorrow in the Surveyor’s Office at 2:00 p.m. Motion to allow the Surveyor’s Office to receive, open and award video inspection bids tomorrow was made by Michael C. Repay, seconded by Kyle W. Allen, Sr. Motion carried 3-0.

B. MS4 Information and Correspondence

1. Inspection report from MS4 Compliance Inspector Chris Brown to County Surveyor Bill Emerson, Jr. and Drainage Board Chairman Gerry Scheub regarding standing water near Morse Street and 171st Avenue.
2. Inspection report from MS4 Compliance Inspector Chris Brown to County Surveyor Bill Emerson, Jr. regarding drainage concerns in Farmington Meadows Subdivision.

ITEM Nos. 7-B-1 & 2 Information Only.

C. Other.

8. Financial Issues

A. Little Calumet River Watershed

B. Kankakee River Watershed

Dan Gossman reported that he will start meeting with Advisory Committee Township Representatives to advise of any priorities they may have in their respective townships for the Lake County Drainage Board Budget in 2017. He requested the Board Members to also advise of any priorities they may have on any regulated drains in their respective Districts.

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

1. **2016 Turkey Creek Bank Stabilization, St John Twp.** (Joliet Street to James Wittchen Drive, Schererville)
 - Sign in sheet from Mandatory Pre-Bid
 - Addendum No. 1
 - IDNR letter to County Surveyor Bill Emerson, Jr. regarding scheduling SEA.
 - IDEM Permit Application
 - USACE Permit Application

Attorney Peter Katic opened three (4) bid proposals received all of which appeared to be in proper legal order and they were as follows:

R.A. Oros, Inc.	\$123,702.50
Austgen Equipment	\$ 85,126.00
Delta III, Inc.	\$ 99,913.00
Gariup Construction	\$147,500.00

Lake County Surveyor Emerson, Jr. requested taking these four bids under advisement. Motion to take these four bid proposals under advisement was made by **Michael C. Repay**, seconded by **Kyle W. Allen, Sr.** Motion carried 3-0.

- B. Kankakee River Watershed

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

- A. Little Calumet River Watershed

1. **2016 Main Beaver Dam Ditch Bank Stabilization** (1423 Edgewater Rd, Crown Point)

R.A. Oros, Inc.	\$48,765.50
Austgen Equipment	\$79,172.00
KDM Services, LLC	\$44,025.75

HANDOUT-Memorandum from **Attorney Cliff Duggan** regarding Contractor Licensing Requirements

The Drainage Board has now indicated in its specifications that a General Contractor's License is required **Attorney Duggan** explained that many Drainage Board projects contain a wide scope of work and for flexibility purposes will allow the awarded contractor to subcontract a project and more desirable in the Drainage Board process. Unless there are compelling reasons to deviate, and the specifications provide the same, the Drainage Board must award to the lowest responsive and responsible bidder, which has a General Contractor License. **Lake County Surveyor Bill Emerson, Jr.** stated that it requires a great deal of manpower to continually check on whether an awarded contractor with a Specialty License is subcontracting sections of the project out.

Motion to make this Memorandum a "Matter of Public Record" was made by **Michael C. Repay**, seconded by **Kyle W. Allen, Jr.** Motion carried 3-0.

Lake County Surveyor Bill Emerson, Jr. requested awarding R.A. Oros, Inc. the Main Beaver Dam Ditch Bank Stabilization Project at 1423 Edgewater Road, in Crown Point, in the amount of \$48,765.50. Motion to award R.A. Oros, Inc. the above-named project in the amount of \$48,765.50 was made by Michael C. Repay, seconded by Kyle W. Allen, Sr. Motion carried 3-0.

B. Kankakee River Watershed

12. Other Business

A. Other

Arnold Reyes (1423 Edgewater Road, Crown Point, IN) presented himself before the Board to thank Assistant Drainage Administrator Tom Regalado and the Lake County Drainage Crew for coming out to his property to address some immediate drainage issues prior to R.A. Oros, Inc. starting the ditch bank stabilization in his backyard.

13. Adjournment

A. The next meeting is scheduled for Wednesday October 19, 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.

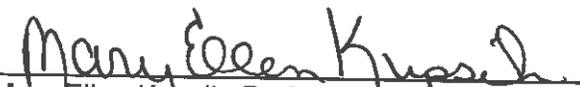
APPROVED THIS 19th DAY OF OCTOBER, 2016

LAKE COUNTY DRAINAGE BOARD


Gerry Scheub, Chairman


Michael C. Repay, Member


Kyle W. Allen, Sr., Member

ATTEST: 
Mary Ellen Kupsik, Drainage Board Secretary

MINUTES

LAKE COUNTY DRAINAGE BOARD ADVISORY COMMITTEE

WEDNESDAY, SEPTEMBER 21, 2016

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

Tom Silich, Hobart Twp.; Dave Hubinger, Center Twp.; Milan Dakich, Ross Twp.; Larry Cope, Winfield Twp.; Louise Neese, Calumet Twp.; Harold Mussman, West Creek Twp.; and John Jurs, Eagle Creek Twp. [7 Present, 4 Absent]. Also Present: Lake County Surveyor Bill Emerson, Jr.; Dan Gossman, Drainage Administrator; Legal Consultant, Clifford E. Duggan, Jr.; Drainage Board Attorney, Peter Katic; Mary Ellen Kupsik, Drainage Board Secretary; North Watershed Engineering Consultant, Thomas Burke of Christopher B. Burke Engineering, and South Watershed Engineering Consultant, Greg Lorig, American Structurepoint, Inc.

3. Agenda

- A. Additions, Deletions, and/or Corrections

Dan Gossman requested the following additions to the Agenda. Item Nos. 5-B-1 and 5-B-6, review letters from CBBEL; Item Nos. 5-E-5, 6 & 7, Notice of Awards; Item Nos. 6-A & B, review letters from engineering consultants; Item No. 6-C, Gesiakowski Drainage Application, and Item No. 11-A-1, Legal Memo. Motion to accept the above-stated additions were made by **Dave Hubinger**, seconded by **Milan Dakich**. Motion carried.

B. Permission to Open Bids/Proposals

4. Minutes

A. August 17, 2016

Tom Silich requested a motion to approve the **August 17, 2016** Lake County Drainage Advisory Board Minutes. Motion to accept and approve same was made by **Louise Neese**, seconded by **Dave Hubinger**. Motion carried.

5. Reports – Correspondence – Information for the Record

A. Advisory Committee By Township

Tom Silich (Hobart Twp.) thanked **Lake County Surveyor Bill Emerson, Jr.** and his staff in coordinating with **Dan Repay** and the Little Calumet River Basin Commission in opening up the Turkey Creek waterway by I-65 and the railroad tracks.

Harold Mussman (West Creek). **Dan Gossman** reported to **Mr. Mussman** that he has arranged for the contractor to remove the silt fence on the Singleton next week and that he will also be meeting with **Jody Herr** tomorrow.

John Jurs (Eagle Creek Twp.) requested setting an onsite meeting on the Brown Levee.

B. Little Calumet River Watershed

1. Letter from Indiana Department of Transportation regarding “slip lining” an existing culvert on I-65, 0.47 miles north of US 30.

Dan Gossman reported that Indiana Department of Transportation (“INDOT”) is proposing a placing a slip liner for one of the pipes under I-65, which is in the Turkey Creek area where the Lake Drainage Board and Little Calumet River Basin Commission just recently unblocked. **Thomas Burke** of Christopher Burke Engineering (“CBBEL”) is reviewing same and has provided INDOT comments that need to address (see attached “Handout” letter from CBBEL). Dan stated that he will provide update at next month’s meeting.

2. Indiana Department of Natural Resources (IDNR) “Certificate of Approval” to City of East Chicago regarding beach and dune restoration at Jeorse Park Beach.

Information Only.

3. Spring Street Ditch, Highland, North Twp.

- Letter from Spring Creek Condominium Association to County Surveyor regarding nuisance trees.
- Previous letter from Drainage Administrator Dan Gossman to County Surveyor Bill Emerson, Jr. regarding same concern.

Dan Gossman reported that **Lake County Surveyor Bill Emerson, Jr.** received an e-mail from Spring Creek Condominium Association, Inc. requesting the County to remove trees that are rubbing against their building. **Lake County Surveyor Bill Emerson, Jr.** previously explained to them that the county will only remove trees that are affecting the flow of water in the ditch and again, via e-mail, reiterated that it is not the county's responsibility to maintain their trees.

4. Schererville Ditch/Dyer Ditch/Teibel Ponds, Schererville, St John Twp.

- Letter from Attorney Daniel Blaney to County Surveyor Bill Emerson, Jr. regarding Stonebridge Estates drainage with Teibel Ponds.
- Response letter from Drainage Administrator Dan Gossman to Attorney Blaney.

Dan Gossman stated that this is a letter received from an attorney regarding Stonebridge Estates Subdivision in Schererville. Several property owners within this subdivision have continually contacted both the County and the Town of Schererville regarding water issues, because of the high water table. He explained that back in 1994 and 1995, INDOT performed improvements on the US 30 & 41 corridor and, in lieu of providing storm water storage, INDOT gave \$600,000.00 to Lake County, the Town of Schererville, and the Teibel Family to create ponds for this entire area for Stormwater Storage. Throughout the years, Lake County and the Town of Schererville have continued to work together in keeping the ditches free flowing and removing beaver dams as soon as they are built; however, currently, the ponds are starting to fill with sediment. **Dan Gossman** reported that the Schererville Parks Department is looking to provide some bike/walk trails along these ponds, which would also involve a drainage easement permit request from the county. He stated that the Surveyor's Office will be working with the Town of Schererville to determine if the current elevations are what they were back in the early 1990's. If not, we will need to reestablish them.

5. Letter/Report from Asst Drainage Administrator Tom Regalado to County Surveyor Bill Emerson, Jr. regarding Clearing & Snagging Crew activity.
6. CBBEL Review Letter regarding 121 East Joliet Street, Schererville.

Dan Gossman reported a site visit was performed by CBBEL regarding pavement sinking at this business parking lot location whereby they determined that the culvert repairs made in 2013 are still in in good condition and that there are no sinkholes adjacent to the storm sewer. However, he did notice that the parking lot is exhibiting some uneven settlement, unrelated to the storm sewer. **Lake County Surveyor Emerson, Jr.** concluded that based on CBBEL's review, the County is not responsible for any repair at this site and that all responsibility lies with the property owner.

7. Other.

C. Kankakee River Watershed

1. Founders Creek, Cedar Creek Twp.

Letter from County Surveyor Bill Emerson, Jr. to US Army Corps of Engineers regarding Feasibility Report.

Lake County Surveyor Emerson, Jr. stated that he met with consultants for Cedar Lake who are doing the permitting work for the dredging of the Cedar Lake and the Aquatic Ecosystem Restoration Project and voiced concerns about our regulated drain, Founders Creek. This letter is to reassure them that all our drainage projects go through the DNR and IDEM for permitting,

so they will know if we are doing anything on Founders Creek. He added that this project will be good for Cedar Lake.

2. Indiana Department of Natural Resources (IDNR) "Certificate of Approval" for "Construction in a Floodway" to Cedar Lake Enhancement Association regarding bank stabilization on an inlet.

Information Only.

3. Letter from Drainage Administrator Dan Gossman to County Surveyor Bill Emerson, Jr. and Drainage Board Chairman Gerry Scheub regarding drainage in Pheasant Ridge Unit 2.

Dan Gossman reported that the Surveyor's Office is working with Lake County Highway to try and get those items addressed.

4. **Griesel Ditch Lateral No. 14, Cedar Creek Twp.**
 - Letter from Lowell MS4 Coordinator Greg White to County Surveyor Bill Emerson, Jr. regarding schedule of cleaning for Griesel Lateral No. 14.
 - Response letter from County Surveyor Bill Emerson, Jr. to Greg White.

Dan Gossman reported that the Surveyor's Office will be meeting with the Town of Lowell to discuss moving forward in rectifying the flooding issues caused by Griesel Lateral No. 14, which was made a regulated drain last year.

5. **Stoney Run Ditch East Branch, Winfield & Eagle Creek Twps.**
 - Letter from Lakes of the Four Seasons Community Manager Richard Cleveland to County Surveyor Bill Emerson, Jr. regarding the drawdown of Lake Holiday into Stoney Run Ditch.
 - Letter from Drainage Administrator Dan Gossman to County Surveyor Bill Emerson, Jr. regarding conditions for the LOFS drawdown of Lake Holiday into Stoney Run.

Information Only.

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

D. Current Projects - Little Calumet River Watershed

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

Dan Gossman reported that this project is nearing completion. Waiting on getting vegetation established.

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

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

Dan Gossman reported this project is also near completion and waiting on getting vegetation established.

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

5. Main Beaver Dam Ditch, Center Twp. (1423 Edgewater Road, Crown Point)

[Relates to Item No. 11-A-1]

6. 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. 2016 Stoney Run Ditch Middle Branch Lateral No. 4 Maintenance, Winfield Twp. (145th Avenue, Leroy)

- Letter from IDNR to County Surveyor Bill Emerson, Jr. regarding “No Permit Required” from IDNR.

Dan Gossman reported that the Surveyor’s Office is waiting on permits from Indiana Department of Environmental Management and the Army Corps of Engineers.

5. 2016 Cedar Creek Maintenance, Cedar Creek Twp. (Lake Dale to 171st Ave)

- Letter from IDNR to County Surveyor Bill Emerson, Jr. regarding scheduling SEA.

HANDOUT-“Notice of Award”. Waiting on permits from Indiana Department of Natural Resources, Indiana Department of Environmental Management and the Army Corps of Engineers.

6. 2016 McConnell Ditch Maintenance, Cedar Creek Twp. (Morse St to 171st Ave)

HANDOUT-“Notice of Award”. Waiting on permits from Indiana Department of Natural Resources, Indiana Department of Environmental Management and the Army Corps of Engineers.

7. 2016 Singleton Ditch Maintenance, Cedar Creek & Eagle Creek Twps. (Monon Rd to Mississippi St).

HANDOUT-“Notice of Award”. Waiting on permits from Indiana Department of Natural Resources, Indiana Department of Environmental Management and the Army Corps of Engineers.

8. Other

Tom Silich requested a Motion that Item Nos. 5-B, C, D & E be made a “Matter of Record”. Motion to approve same was made by Dave Hubinger, seconded by Louise Neese. Motion carried.

6. Applications / Petitions

A. Bull Run Ditch, St John Twp.

Applicant: Preserve, S.J., LLC

Agent: Jack Slager

Application to "Perform Work", "Connect/Discharge Into", and "Place Temporary /Permanent Structure" within regulated drain for the purpose of development of subdivision.

- Letter from County Surveyor Bill Emerson, Jr. to IDEM regarding Lake County review.
- Indiana Office of Environmental Adjudication order for Scheduling Prehearing Conference.
- Letter from Casboni Bros. regarding withdraw of objection to IDEM Section 401 Certification.

Lake County Surveyor Bill Emerson, Jr. reported on a meeting held in the Lake County Surveyor's Office with property owners, the **Casboni Brothers**; the Developer's representative from the Preserve, **Jack Slager**, along with their Engineer, **Manhard Engineering**; **Commissioner Scheub**, Surveyor Office staff, **Bill Emerson, Jr.** and **Dan Gossman**, along with the County's engineer consultant, **Jeremy Schmitt**, from American Structurepoint, Inc.

Surveyor Emerson, Jr. explained that it was a good meeting wherein this development was presented in more detail by all parties ending with a good outcome. **Jeremy Schmitt** (ASI) explained that ASI requested a required compensatory storage of 1.5 times the volume of fill and the developer's engineer is providing 2.4 times. He recommended approval with the following eight (8) conditions:

1. Provide calculations showing the amount of compensatory storage that will be required for this project (1.5 times the volume of fill being added within the floodplain), as stated in the "No Net Loss Floodplain storage Policy", Chapter 3, Section 2.D. Compare this to the amount of compensator storage currently proposed.
2. Provide a copy to the Drainage Board of any Letter of Map Revision submitted to FEMA.
3. While completing the work, the applicant shall ensure that no construction debris of materials is placed within the ditch channel.
4. Excavated soil and other construction materials shall be stockpiled outside of the ditch channel and outside the top of banks of the ditch. Work within the drainage easement should be minimized to just the tasks necessary for completion of this project.
5. Outlets into Bull Run shall be constructed in accordance with INDOT standards for erosion protection and shall be permitted with the Indiana department of Natural Resources, as appropriate.
6. The contractor is responsible for successfully implementing the Soil Erosion and Sedimentation Control Plan included in the Project Plans.
7. All future phases of the project shall, be submitted to Drainage Board for review before they are constructed
8. The applicant's design meets the Lake County Stormwater Ordinance requirements that general release rates do not exceed 0.2 cfs per acre of development. The applicant is only using 9.58 cfs of the total 34.56 cfs release rate allowed for this project.

Surveyor Emerson, Jr. stated that at the conclusion of this meeting, the Casboni Brothers withdrew their Prehearing Conference with the presiding Environmental Law Judge before the Indiana Office of Environmental Adjudication and requested recommending approval with the above stated conditions. Motion to recommend approval with the above-stated conditions was made by **Louise Neese**, seconded by **Milan Dakich**. Motion to recommend approval carried.

B. Hart Ditch / Plum Creek, St John Twp.

Applicant: Enbridge Energy, Limited Partnership

Application to "Perform Work" within regulated drain for the purpose of routine pipeline maintenance.

Thomas Burke (CBBEL) explained that during his review, he noted that Enbridge will be stockpiling excavated material within the floodway of Hart ditch, which is not a permissible activity and recommends the Applicant contact the Indiana Department of Natural Resources-Division of Water regarding a Floodway Construction Permit and based on this outstanding issue, he recommends deferral. Motion to defer was made by **Dave Hubinger**, seconded by **Louise Neese**. Motion to recommend deferral carried.

C. HANDOUT-Gesiakowski Mutual Drain Application

Lake County Surveyor Bill Emerson, Jr. explained that the Petitioner's property continually retains standing water and there appears to be some field tiles that are back flowing, so under Indiana Code 36-9-27.4, this is a Petition to declare this a mutual drain under Drainage Board authority and request that the county remove an obstruction in the mutual drain. He did add that the home was also built too low, which affects the standing water on the property in general. **Attorney Cliff Duggan** explained that once Petition is filed, pursuant to the statute, the Surveyor provides a report to you to see if in fact there is an obstruction, then Lake County Drainage Board would set a date for Hearing and serve those involved property owners and proceed under the statute. **Attorney Cliff Duggan** explained that at this point the only action is to accept the Petition and direct the Surveyor's Office to go forward. Motion to recommend the acceptance of the Petition and move forward was made by **Dave Hubinger**, seconded by **Milan Dakich**. Motion to recommend acceptance and move forward carried.

D. Other

7. MS4 Water Quality

A. Capital Projects Status Report

1. 41st Avenue Storm Sewer Project, Calumet Twp.

Lake County Surveyor Bill Emerson, Jr. reported that bids for this project will be opened at today's Board of Commissioners' Meeting at 10:00 a.m.

2. 133rd Avenue / S.R. 55 Storm Drainage Project, Center Twp.

Lake County Surveyor Bill Emerson, Jr. reported that the Lake County Highway will be Petitioning the Drainage Board to reestablish the drain at this site.

3. Upper Beaver Dam Ditch Storage/Water Quality Project

4. Willowdale Sanitary Sewer – Phase II & III

Lake County Surveyor Bill Emerson, Jr. reported that currently the “as-builts” are being reviewed and it was noted that there are a few potential issues whereby he will be instructing the surveying crew to go out there to verify that certain elevations are acceptable.

5. Williams Street, Calumet Twp.

Lake County Surveyor Bill Emerson, Jr. reported that the trees have been removed and we are working with the Lake County Highway Department on rectifying some rear yard drainage issues.

6. South County Sanitary Sewer Project with ACOE

7. Hawthorne Hills – Storm Sewer Video Inspection

- Request for proposals from Drainage Administrator Dan Gossman for video inspection of storm sewers.

Lake County Surveyor Bill Emerson, Jr. reported that this is area off of Cedar Lake Road which has continually been experiencing flooding issues wherein we believe might be caused by a collapsed storm sewer. Surveyor Emerson, Jr. requested recommending to seek bid proposals to video tape inside the sewer line to determine if there is a collapse with bids proposals due tomorrow at 2:00pm in the Surveyor’s Office and award. Motion to request recommending approval of same was made by Dave Hubinger, seconded by Milan Dakich. Motion carried.

B. MS4 Information and Correspondence

1. Inspection report from MS4 Compliance Inspector Chris Brown to County Surveyor Bill Emerson, Jr. and Drainage Board Chairman Gerry Scheub regarding standing water near Morse Street and 171st Avenue.

Dan Gossman reported that this is an issue between two neighbors. It is not under county jurisdiction.

2. Inspection report from MS4 Compliance Inspector Chris Brown to County Surveyor Bill Emerson, Jr. regarding drainage concerns in Farmington Meadows Subdivision.

Dan Gossman reported that upon inspection by MS4 Compliance Inspector, Chris Brown, drainage issues were discovered at this subdivision. Chris Brown noted that the current retention pond outlet for phase I has not been well maintained and Phase II has yet to be started. Chris is currently reviewing the drainage and storm sewer plans for this subdivision to determine possible solutions to these issues

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
 1. 2016 Turkey Creek Bank Stabilization, St John Twp. (Joliet Street to James Wittchen Drive, Schererville)
 • Sign in sheet from Mandatory Pre-Bid
 • Addendum No. 1
 • IDNR letter to County Surveyor Bill Emerson, Jr. regarding scheduling SEA.
 • IDEM Permit Application
 • USACE Permit Application

Dan Gossman reported that these proposals will be opened at today's drainage Board Meeting at 9:00 a.m.

B. Kankakee River Watershed

11. Award Contracts, Approve Modifications, and/or Ratify Actions by County Surveyor
 A. Little Calumet River Watershed
 1. 2016 Main Beaver Dam Ditch Bank Stabilization (1423 Edgewater Rd, Crown Point)

R.A. Oros, Inc.	\$48,765.50
Austgen Equipment	\$79,172.00
KDM Services, LLC	\$44,025.75

HANDOUT- Memorandum from Attorney Cliff Duggan regarding Contractor's Licensing.

Lake County Surveyor Bill Emerson, Jr. stated that this Memorandum was drawn up by Attorney Cliff Duggan to explain why we are not accepting the lowest bid, KDM Services, LLC because they do not hold a Lake County General Contractors; however, the next lowest, most responsive responsible bidder and holds a General Contractor's License is R.A. Oros. Attorney Cliff Duggan explained that a General License means a Contractor can subcontract work and given that the Drainage Board Ditch Maintenance Projects have a wide scope of work that needs to be performed, having a General Contractor's License works more effectively. Recommendation to request all contractors who bid on Drainage Board Projects hold a General Contractors License was made by Harold Mussman, seconded by John Jurs. Motion carried. Surveyor Emerson, Jr. then requested recommending approval to award this project to R.A. Oros, Inc. in the amount of \$48,765.50. Motion to request recommending approval of same was made by Dave Hubinger, seconded by Harold Mussman. Motion to request recommending approval carried.

B. Kankakee River Watershed

12. Other Business
 A. Other

Arnold Reyes (1423 Edgewater Road, Crown Point, IN) inquired if all permits have been received from the regulatory agencies, so R.A. Oros can start the project on his property. Dan Gossman replied that it will be started as soon as we receive permits.

13. Adjournment

- A. The next meeting is scheduled for Wednesday October 19, 2016 in the Lake County Commissioners' Courtroom at 8:00AM Drainage Advisory Committee and 9:00AM Drainage Board.**
- B. Motion to Adjourn.**

Adjournment 8:50 a.m.

5-B-1
10-19-16



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

October 06, 2016

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

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

RE: George Rich 4944 E. 81st Ave.
Merrillville, Ross Twp.

Dear Gentlemen,

I spoke with Mr. George Rich about his drainage issues on his property and the issues coming from his neighbor to the east. According to records located in the Lake County Surveyor's office, the ditch that passes through his property located 4944 E. 81st Avenue and Clay Street, is not a county regulated drain. Therefore, it is not under the jurisdiction of the Lake County Surveyor/Lake County Drainage Board and neither of these two agencies have statutory authority to perform any type of maintenance. Likewise, the County MS4 (Clean Water Department) has no statutory jurisdiction either since this is located within the corporate limits of the Town of Merrillville.

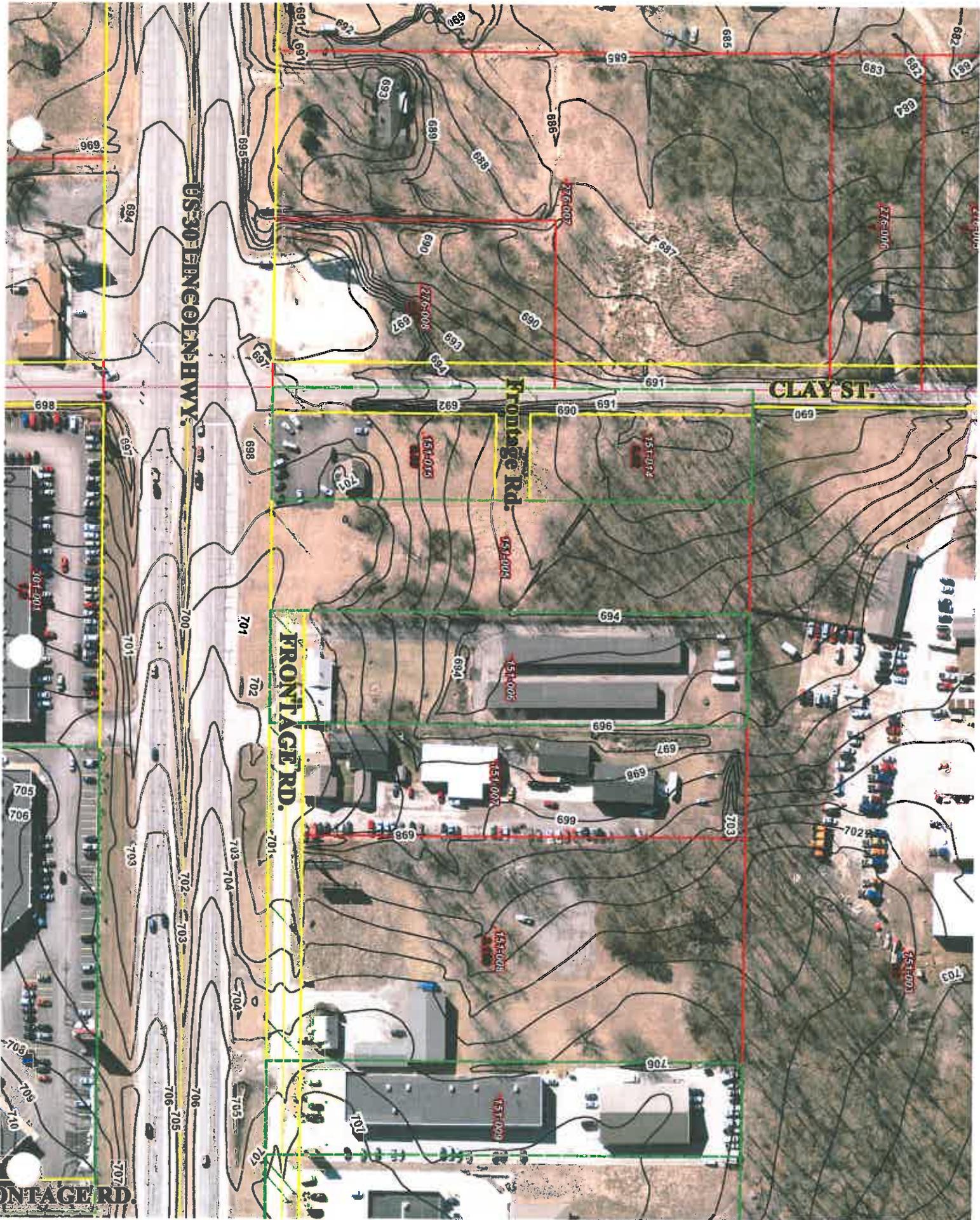
It is unfortunate that we are unable to provide assistance, but since this is located solely within the Town of Merrillville I would recommend that the property owners reach out to the Town for assistance in their drainage concerns.

Should you have any additional questions or comments, please do not hesitate to contact our office.

Sincerely,

Thomas Regalado
Assistant Drainage Administrator

Cc: Daniel V. Gossman, Drainage Administrator
Cliff Duggan, Legal Advisor
Milan Dakich, Ross Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee



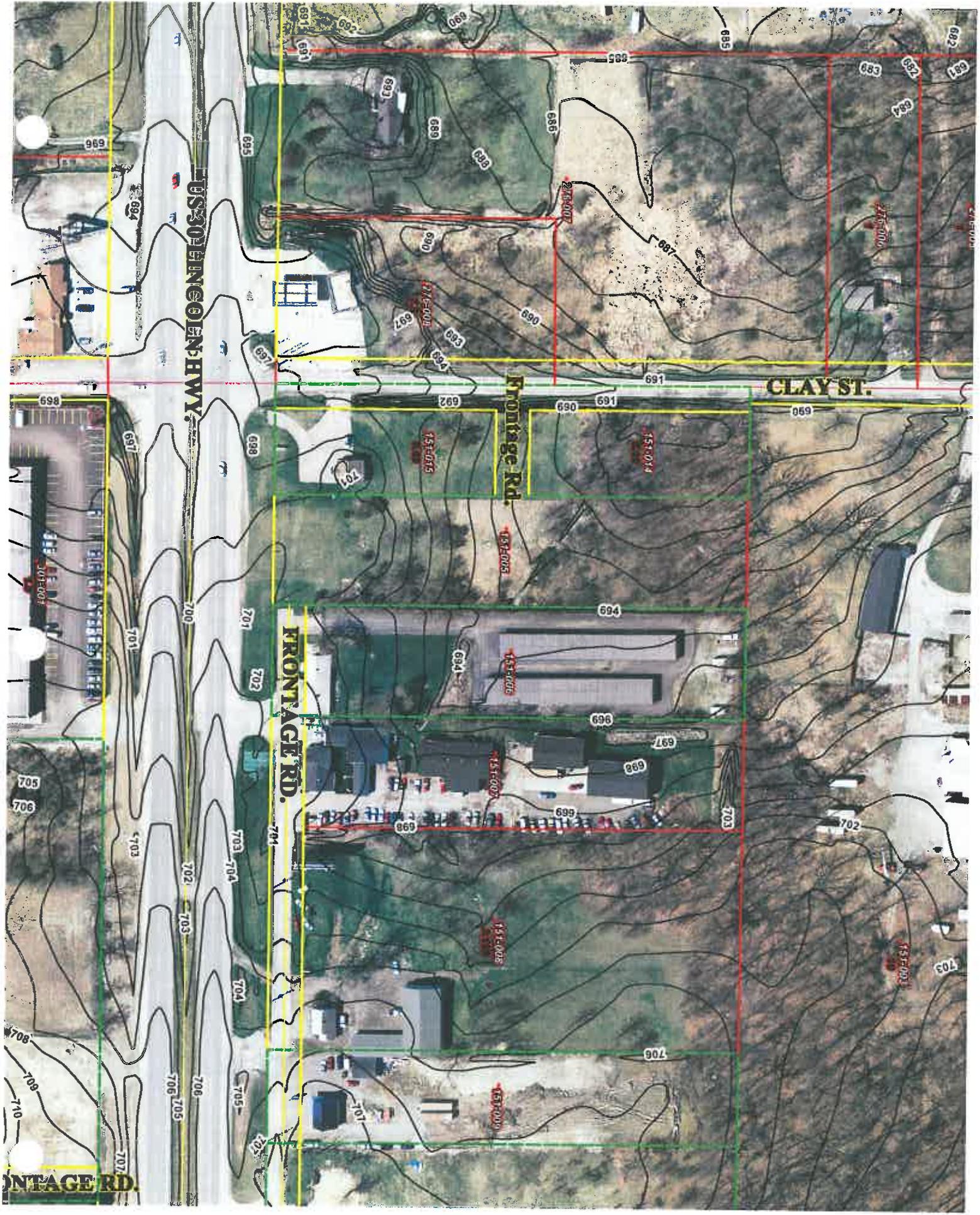
US 30 ENGINEER HWY.

Frontage Rd.

CLAY ST.

FRONTAGE RD.

FRONTAGE RD.



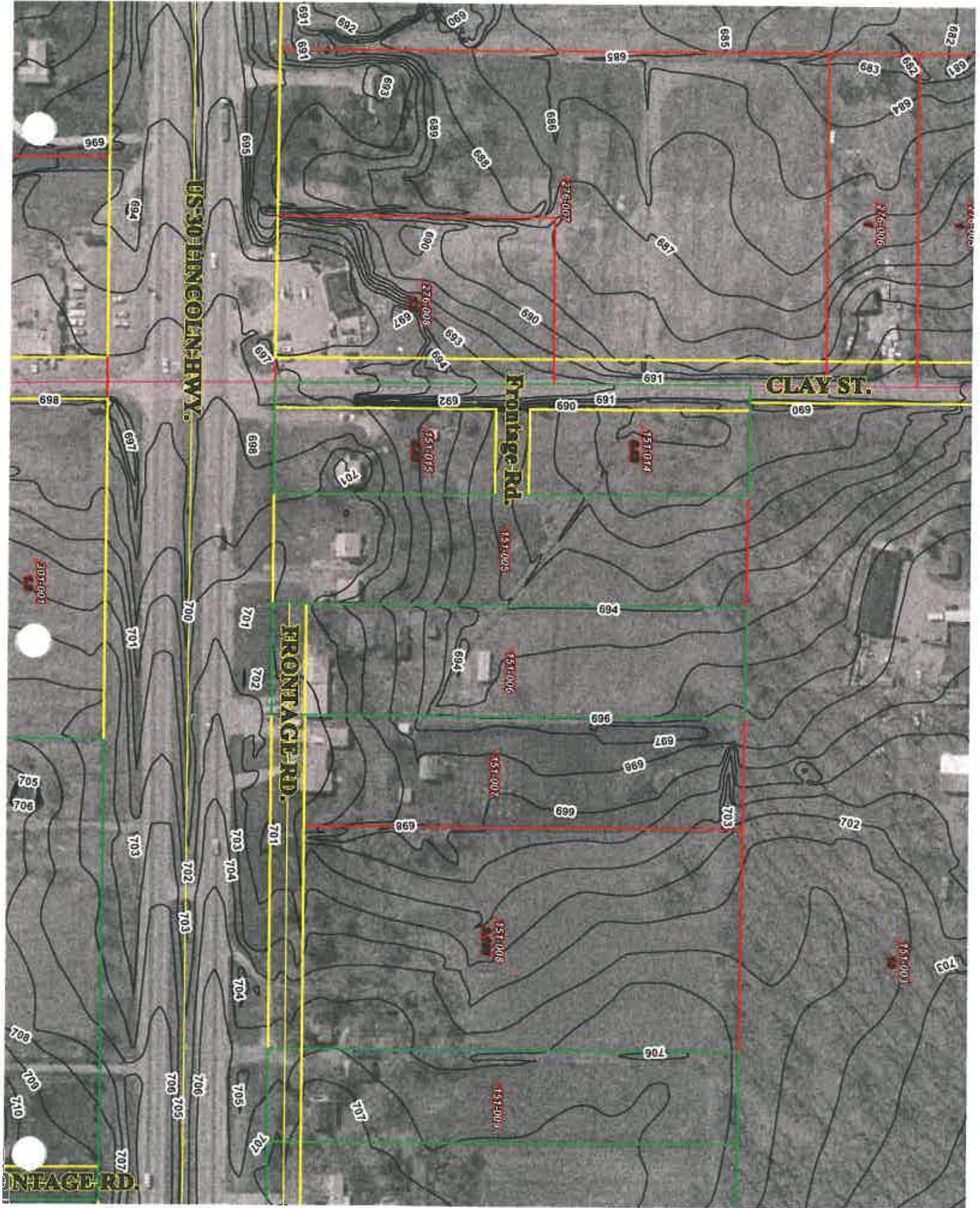
US30 HINGOLIN HWY.

CLAY ST.

Frontage Rd.

FRONTAGE RD.

FRONTAGE RD.



5-B-2
10-19-16



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

October 07, 2016

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

RE: Bill Conner 9953 Twin Creek Blvd
Munster, North Twp.

Dear Bill,

The Office Received a call from Mr. Bill Conner with concerns to the Hart ditch behind his house at 9953 Twin Creek Blvd in Munster. I spoke with Mr. Conner about his drainage and erosion issues on his property. I explained to Mr. Conner that stretch of the Hart ditch is unfortunately a non-regulated drain of Lake County. I informed Mr. Conner to contact the Town of Munster and / or Little Calumet River Basin Development Commission for help with his situation.

According to records located in the Lake County Surveyor's office, the Hart ditch that passes along the East side of his property located at 9953 Twin Creek Blvd, is not a county regulated drain. Therefore, it is not under the jurisdiction of the Lake County Surveyor/Lake County Drainage Board and neither of these two agencies have statutory authority to perform any type of maintenance. Likewise, the County MS4 (Clean Water Department) has no statutory jurisdiction either since this is located within the corporate limits of the Town of Munster.

It is unfortunate that we are unable to provide assistance, but since this is located solely within the Town of Munster I recommended that the property owner reach out to the Town for assistance in their drainage concerns.

Should you have any additional questions or comments, please do not hesitate to contact our office.

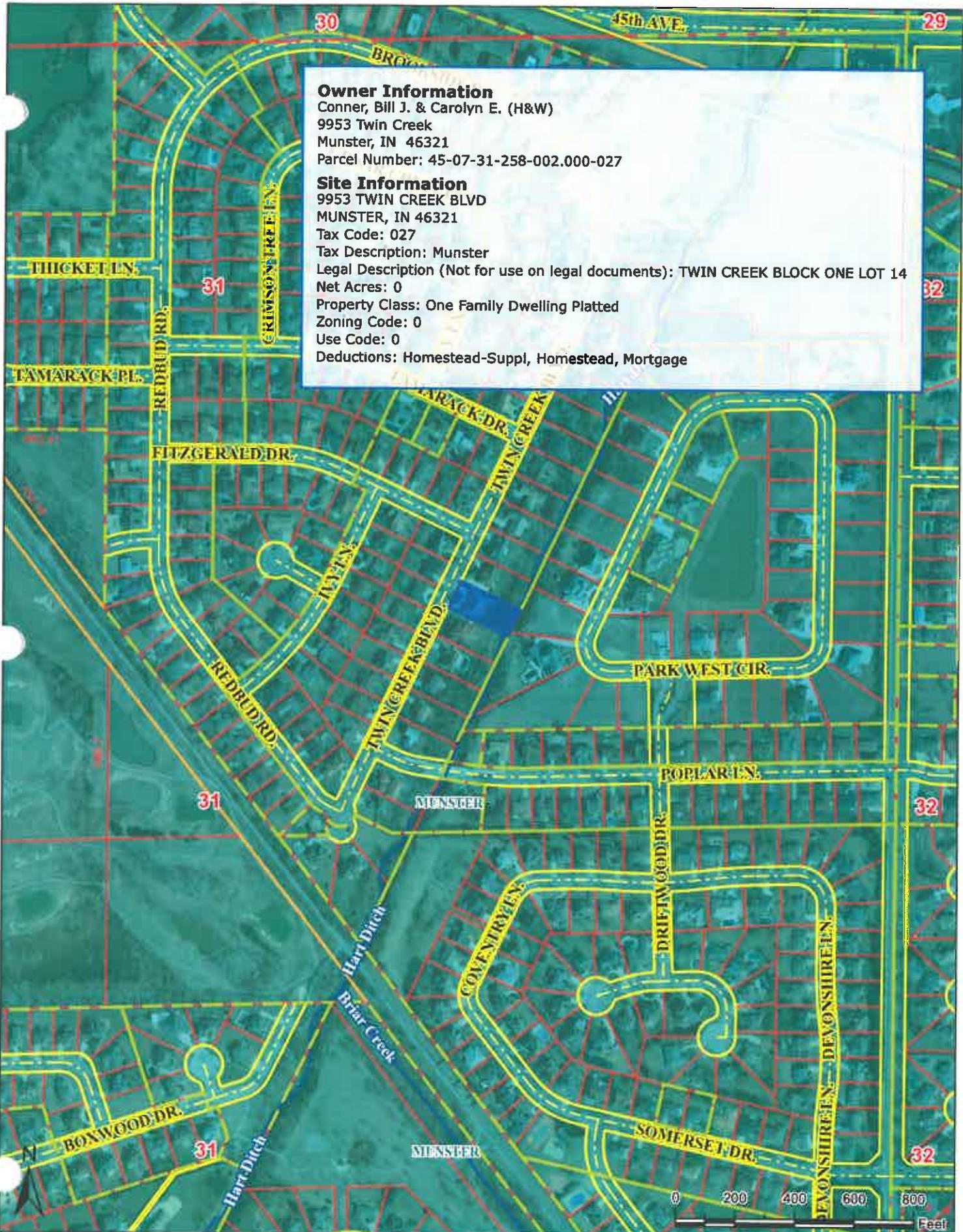
Sincerely,

Thomas Regalado
Assistant Drainage Administrator

Cc: Daniel V. Gossman, Drainage Administrator
Cliff Duggan, Legal Advisor
Jamie Blankman, North Township Advisory Committee Representative
Lake County Drainage Board & Advisory Committee

Owner Information
 Conner, Bill J. & Carolyn E. (H&W)
 9953 Twin Creek
 Munster, IN 46321
 Parcel Number: 45-07-31-258-002.000-027

Site Information
 9953 TWIN CREEK BLVD
 MUNSTER, IN 46321
 Tax Code: 027
 Tax Description: Munster
 Legal Description (Not for use on legal documents): TWIN CREEK BLOCK ONE LOT 14
 Net Acres: 0
 Property Class: One Family Dwelling Platted
 Zoning Code: 0
 Use Code: 0
 Deductions: Homestead-Suppl, Homestead, Mortgage





STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

5-B-3
10-19-16



**TERMINATION NOTICE
CONSTRUCTION IN A FLOODWAY**

APPLICATION # : FW-28530
STREAM : Frog Creek
APPLICANT : Martin Yanovic
2162 Westchester Avenue
Chesterton, IN 46304
AGENT : Duneland Group, Inc
Charles Ray
1498 Pope Court
Chesterton, IN 46304

MAILED: October 06, 2016

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

DESCRIPTION : Approximately 450' of Frog Creek will be moved 100' to the north. A permanent pond and bioswale will be constructed. A temporary pond with an outlet and a temporary emergency overflow will be constructed. Erosion control measures will be taken. Details of the project are contained in information and plans received at the Division of Water on July 8, 2016.

LOCATION : Approximately 7600' upstream of the confluence with Duck Creek at Hobart, Hobart Township, Lake County
Section 33, T 36N, R 7W, Portage Quadrangle
UTM Coordinates: Downstream 4597938 North, 480645 East

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

TERMINATED ON : October 06, 2016

Included: Notice Of Right To Administrative Review - Termination Reasons - Service List

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW

APPLICATION #: FW- 28530

This signed document constitutes the termination of your application by the Department of Natural Resources.

The termination may be appealed by applying for administrative review. The review will be 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 containing the specific reasons for the appeal 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

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

Termination Reasons

APPLICATION #: FW- 28530

Based on information received by the Department of Natural Resources on July 8, 2016, this permit application was terminated on October 6, 2016 for the reason(s) listed below.

If there will be any deviation from the submitted information, or if work is proposed at the site in the future, the Department should be contacted to determine the potential permit requirements.

<u>Number</u>	<u>Termination Reason</u>
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(1)	the drainage area above the downstream end of the project site is less than 1 square mile
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STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 28530

Martin Yanovic
2162 Westchester Avenue
Chesterton, IN 46304

Duneland Group, Inc
Charles Ray
1498 Pope Court
Chesterton, IN 46304

City of Hobart
Sergio Carrera Mendoza
414 Main Street
Hobart, IN 46342-4444

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
Dan Gossman
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

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

Staff Assignment:

Administrative
Technical

: Nicholas Males
: Nicholas Males

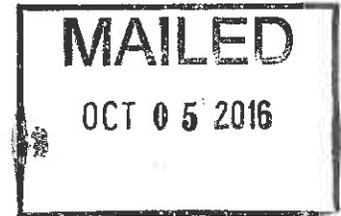
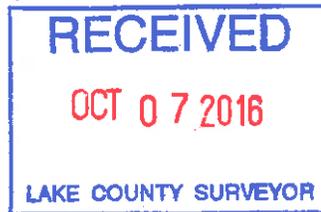
DNR Indiana Department of Natural Resources

5-B-4
10-19-16

Michael R. Pence, Governor
Cameron F. Clark, Director
Division of Water
402 W. Washington Street
Room W264
Indianapolis, IN 46204
Phone (317) 232-4160
Toll-free (877) 928-3755
Fax (317) 233-4579
www.in.gov/dnr/water

October 4, 2016

Stephen Kelley
Haley and Aldrich, Inc.
75 Washington Avenue, Suite 203
Portland, Maine, 04101



Re: CTS - 4298
Grand Calumet River, Lake County

Dear Mr. Kelley:

This is in response to your request received at the Division of Water on August 15, 2016, for the renewal of a Certificate of Approval, FW-27506, which was issued on October 7, 2014.

In your request you provided verification that the permittee and the project plans approved under FW-27506 have not changed. Therefore, in accordance to IC 14-28-1-22(h) the Department is granting a one-time two (2) year renewal of permit number FW-27506.

Please note that if the work authorized by this permit and its renewal, is not completed by October 7, 2018, your permit will expire and a new permit will have to be obtained.

This letter should be attached to the existing permit and displayed at the project site. The Division of Water will place a copy in the permit file to be retained as a permanent part of the application. Please be aware that all conditions of the permit must be met for your project to be in compliance.

If there are any further questions concerning this project, please contact the Technical Services Section, Division of Water at (317) 232-4160 or at water_inquiry@dnr.in.gov.

Sincerely,

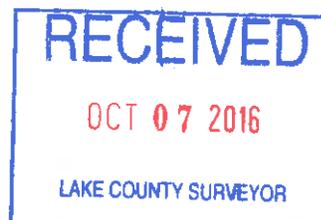
A handwritten signature in black ink, appearing to read "James J Hebenstreit".

James J Hebenstreit, PE
Assistant Director
Division of Water

JJH/njm

Enclosures: Copy of Certificate of Approval, FW - 27506
Notice of Right to Administrative Review

cc: Service List for FW - 27506



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Printed on Recycled Paper

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES
NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW
File No. CTS-4298

The letter or any of the conditions, limitations, and amendments 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:

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

The petition must contain specific reasons for the appeal and indicate the portion or portions of the letter 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.



DNR

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

CERTIFICATE OF APPROVAL
CONSTRUCTION IN A FLOODWAY

APPLICATION # : FW-27506

MAILED: October 07, 2014

STREAM : Grand Calumet River

APPLICANT : Indiana Department of Natural Resources
Carl Wodrich
Division of Land Acquisition
402 West Washington Street, Room W261
Indianapolis, IN 46204

AGENT : Haley and Aldrich Inc
Stephen J Kelley
75 Washington Avenue
Portland, ME 04101

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

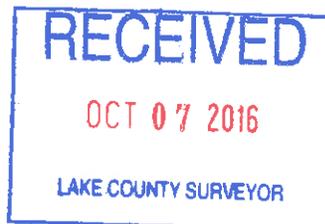
DESCRIPTION : A temporary flow diversion structure will be installed in the river channel directly downstream of the Howard Street outfall prior to the start of sediment dredging in Reach 6 and 7, under Permit Application FW- 27504, to help manage surface water flow during construction. The temporary structure will completely block the river channel up to an elevation of 584.0' NAVD. The temporary structure will be removed following the completion of the sediment dredging. Details of the project are contained in information and plans received at the Division of Water on April 11, 2014, May 6, 2014, May 7, 2014, May 13, 2014, June 5, 2014, June 17, 2014, August 21, 2014 and September 10, 2014.

LOCATION : Directly downstream of the Howard Street outfall structure, in Reach 3 at Hammond, North Township, Lake County
Section 31, T 37N, R 9W, Calumet City, IL-IN Quadrangle
UTM Coordinates: Downstream 4607599 North, 458079 East

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

APPROVED ON : October 7, 2014

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- 27506

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:

Mr. Stephen L. Lucas, 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- 27506

- (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- 27506

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 October 07, 2016 the permit will become void. This permit may be renewed one (1) time for a period not to exceed two (2) additional years only if a written request for the two (2) year permit renewal is received by DNR, Division of Water prior to October 07, 2016. 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 11, 2014, May 6, 2014, May 7, 2014, May 13, 2014, June 5, 2014, June 17, 2014, August 21, 2014 and September 10, 2014. Any deviation from the information must receive the prior written approval of the Department.

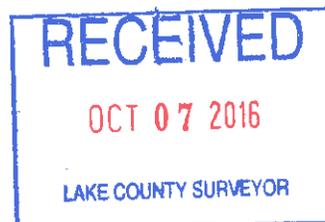
Number	Special Condition
(1)	revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion
(2)	minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush
(3)	do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30
(4)	minimize the movement of resuspended bottom sediment from the immediate project area
(5)	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
(6)	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
(7)	cofferdam materials shall not include soil, sand, or similar earthen fill or fines
(8)	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 *
(9)	all work must conform with the existing bank at the upstream and downstream limits of the project site

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SPECIAL CONDITIONS

APPLICATION #: FW- 27506

- (10) upon completion of the project, remove all construction debris, including the temporary sheet piling diversion structure in Reach 3 from the floodway *
- (11) 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
- (12) 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
- (13) signs should be posted at the upstream and downstream limits of the construction site, to warn boating traffic of the ongoing work
- (14) * NOTE: for regulatory purposes, the floodway is defined as that shown on Panel 19 of the Lake County Flood Insurance Rate Map dated January 18, 2012



STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 27506

Indiana Department of Natural Resources
Carl Wodrich
Division of Land Acquisition
402 West Washington Street, Room W261
Indianapolis, IN 46204

Haley and Aldrich Inc
Stephen J Kelley
75 Washington Avenue
Portland, ME 04101

Caroline Anderson
947 Wilcox
Hammond, IN 46320-1352

City of Hammond Redevelopment Commission
649 Conkey Street
Hammond, IN 46324

Deutsche Bank National Trust Company
1661 Washington Road, Suite 100
West Palm Beach, FL 33409

Hector Hernandez
223 Gregory Avenue
Hammond, IN 46321-1011

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

William R McCoy Jr
1715 Warwick Avenue
Whiting, IN 46394-1439

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

Ana D and Edwardo Salas Ramirez
951 Wilcox Street
Hammond, IN 46320-1352

Eddie and Sheryl Smoot
1518 Michigan Street
Hammond, IN 46320-1420

US Army Corps of Engineers
Chicago District
111 North Canal Street, Suite 600
Chicago, IL 60606

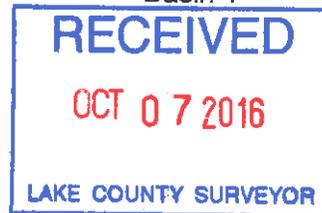
Staff Assignment:

Administrative	: Jennifer L. Ware
Technical	: Jennifer L. Ware
Environmental	: J. Matthew Buffington
Fish and Wildlife	: Lori White
Law Enforcement	: Tom Torsell
Historic Preservation & Archaeology	: Cathy Draeger-Williams
Engineering	: Tamika Ali-Yerima

DNR Indiana Department of Natural Resources

Michael R. Pence, Governor
Cameron F. Clark, Director
Division of Water
402 W. Washington Street
Room W264
Indianapolis, IN 46204
Phone (317) 232-4160
Toll-free (877) 928-3755
Fax (317) 233-4579
www.in.gov/dnr/water/

October 5, 2016
Basin 1



Carl Wodrich
Indiana Department of Natural Resources
Division of Land Acquisition
402 West Washington Street, Room W261
Indianapolis, IN 46204

Re: CTS-4286 (Amendment to FW-27504)
Grand Calumet River – Lake County

Dear Mr. Wodrich,

On September 7, 2016 we received your request to amend Application No. FW-27504, which was approved by the Department on October 7, 2014, to include raising the south bank sheet pile wall to approximately 581', installing four additional sheets at a 45 degree angle into the southern bank, and a sand and rip rap mixture placement to stabilize the bank. The project is located along the south bank of Reach 7 in Section 25, Township 37 North, Range 10 West at Hammond, North Township, Lake County.

Our staff has completed the review of your request and has determined that if the project is completed as described in the information submitted, there should be no adverse effect on the efficiency or capacity of the floodway, no unreasonable threat to safety of life or property, and no unreasonable detrimental impact to fish, wildlife, and botanical resources resulting from the revision to this permit. All conditions listed on the original permit (FW-27504) must be met.

The original project description is amended to read as follows:

A 2' thick layer of contaminated sediment totaling approximately 15,600 cubic yards will be dredged along 2000' of the channel and wetland shelves between the Indiana/Illinois state line and Hohman Avenue (Reach 6 and 7). The excavated material will be transported to an adjacent property to be stored prior to being moved to a disposal facility offsite. Approximately 15,600 cubic yards of material will be used to create an underwater reactive cap over the remaining contaminated sediment. The reactive cap will be a minimum of 2' thick throughout the channel and will be made up of organoclay and granulated activated carbon covered with 1' of sand. Temporary and semi-permanent steel sheet pile barriers will be installed within the channel to dewater and isolate the work areas. All steel sheet piling structures will either be cut or driven so that the top of the wall is flush with the top of the reactive cap upon completion of the project. **The south bank sheet pile wall in Reach 7 will be raised to a consistent elevation of approximately 581' NAVD and will be welded to the adjacent sheet pile wall. Four additional sheets will be installed at a 45 degree angle into the southern bank and approximately 5' of sheet pile will be left higher than 581' NAVD to direct potential future high waters in the area back to the center channel. A bentonite "plug" and a rip rap and sand mixture will be installed to repair current and prevent future scouring. A 1' deep by 20' wide weir will be installed in the center of the sheet pile wall. Once the sheet pile wall is completed, a rip rap and sand mixture will be place to fill the eroded area and to prevent further erosion. A 4"-6" layer of top soil will be placed over the**

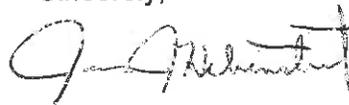
sand and rip rap, and seeding and erosion control measures will be implemented. A 1' tall rock check dam will extend 20' upstream and downstream of the steel sheet piling wall to prevent scour of the reactive cap. The top of the rock check dam will be flush with the steel sheet piling wall. The rock check dam is proposed to eliminate the potential for impacted sediments to be released downstream of the state line. Details of the project are contained in information and plans received at the Division of Water on April 11, 2014, April 22, 2014, April 29, 2014, May 15, 2014, May 19, 2014, May 22, 2014, June 5, 2014, June 17, 2014, July 23, 2014, August 7, 2014, August 8, 2014, August 11, 2014, and September 30, 2016.

This letter should be displayed at the project site. The Division of Water will place a copy of this letter in the file to be retained as a permanent record.

You should not construe this letter as a local building permit or a waiver of any local building or zoning ordinance. Additionally, this letter does not relieve you of the responsibility of obtaining permits, approvals, easements, etc. as required by other federal, state and local agencies.

If you have any questions, please contact Nick Males, of the Technical Services Section, either at our toll-free number, 1-877-928-3755, or directly at (317) 234-1073.

Sincerely,



James J Hebenstreit, PE
Assistant Director
Division of Water

JJH/njm

cc: Service list for FW-27504

Enclosures: Notice of Right to Administrative Review
Copy of Permit FW-27504



**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES
NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW**

File No. CTS- 4286

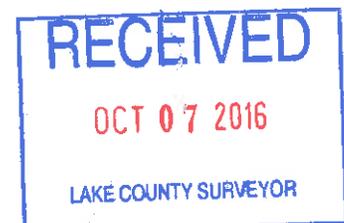
The letter or any of the conditions, limitations, and amendments which it contains may be appealed by applying for administrative review. Such review is governed by the Administrative Orders and Procedures Act, IC 4-21.5, and the Department's rules pertaining to adjudicative proceedings, 312 IAC 3-1.

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:

Natural Resources Commission
Division of Hearings
Indiana Government Center North, Room N501A
100 North Senate Avenue
Indianapolis, IN 46204

The petition must contain specific reasons for the appeal and indicate the portion or portions of the letter 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
CERTIFICATE OF APPROVAL
CONSTRUCTION IN A FLOODWAY

MAILED: October 07, 2014

APPLICATION # : FW-27504

STREAM : Grand Calumet River

APPLICANT : Indiana Department of Natural Resources
Carl Wodrich
Division of Land Acquisition
402 West Washington Street, Room W261
Indianapolis, IN 46204

AGENT : Haley and Aldrich Inc
Stephen J Kelley
75 Washington Avenue
Portland, ME 04101

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

DESCRIPTION : A 2' thick layer of contaminated sediment totaling approximately 15,600 cubic yards will be dredged along 2000' of the channel and wetland shelves between the Indiana/Illinois state line and Hohman Avenue (Reach 6 and 7). The excavated material will be transported to an adjacent property to be stored prior to being moved to a disposal facility offsite. Approximately 15,600 cubic yards of material will be used to create an underwater reactive cap over the remaining contaminated sediment. The reactive cap will be a minimum of 2' thick throughout the channel and will be made up of organoclay and granulated activated carbon covered with 1' of sand. Temporary and semi-permanent steel sheet pile barriers will be installed within the channel to dewater and isolate the work areas. All steel sheet piling structures will either be cut or driven so that the top of the wall is flush with the top of the reactive cap upon completion of the project. Approximately 20' upstream of the Indiana/Illinois state line a permanent steel sheet piling wall will be installed with a top elevation of 577' NAVD, which is 1' above the top of the reactive cap. A 1' tall rock check dam will extend 20' upstream and downstream of the steel sheet piling wall to prevent scour of the reactive cap. The top of the rock check dam will be flush with the steel sheet piling wall. The rock check dam is proposed to eliminate the potential for impacted sediments to be released downstream of the state line. Details of the project are contained in information and plans received at the Division of Water on April 11, 2014, April 22, 2014, April 29, 2014, May 15, 2014, May 19, 2014, May 22, 2014, June 5, 2014, June 17, 2014, July 23, 2014, August 7, 2014, August 8, 2014 and August 11, 2014.

LOCATION : From the Indiana/Illinois state line continuing upstream approximately 2000' to the Hohman Avenue stream crossing near Hammond, North Township, Lake County Section 25, T 37N, R 10W, Calumet City, IL-IN Quadrangle
UTM Coordinates: Downstream 4608403 North, 456272 East

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

APPROVED ON : October 7, 2014

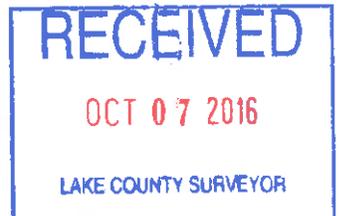


STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

DNR

**CERTIFICATE OF APPROVAL
CONSTRUCTION IN A FLOODWAY**

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- 27504

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:

Mr. Stephen L. Lucas, 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- 27504

- (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:

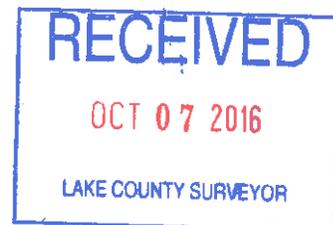
<u>Agency</u>	<u>Telephone Number</u>
Lake County Drainage Board	
Little Calumet River Basin Development Commission	(219) 595-0599
US Army Corps of Engineers	(312) 846-5539
Indiana Department of Environmental Management	(317) 233-8488 or (800) 451-6027
Local city or county planning or zoning commission	

- (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- 27504

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 October 07, 2016 the permit will become void. This permit may be renewed one (1) time for a period not to exceed two (2) additional years only if a written request for the two (2) year permit renewal is received by DNR, Division of Water prior to October 07, 2016. 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 11, 2014, April 22, 2014, April 29, 2014, May 15, 2014, May 19, 2014, May 22, 2014, June 5, 2014, June 17, 2014, July 23, 2014, August 7, 2014, August 8, 2014 and August 11, 2014. Any deviation from the information must receive the prior written approval of the Department.

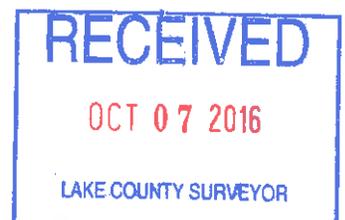
<u>Number</u>	<u>Special Condition</u>
(1)	revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion
(2)	minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush
(3)	do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30
(4)	minimize the movement of resuspended bottom sediment from the immediate project area
(5)	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
(6)	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
(7)	plant five trees, at least 2 inches in diameter-at-breast height, for each tree which is removed that is ten inches or greater in diameter-at-breast height
(8)	implement the planting plan received at the Division of Water on June 17, 2014, within one complete growing season of project initiation
(9)	submit a final report indicating the count of trees removed having a 10" or greater diameter-at-breast height, and the number, location and species of trees planted upon the completion of the project

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SPECIAL CONDITIONS

APPLICATION #: FW- 27504

- (10) post "Do Not Mow or Spray" signs along the right-of-way surrounding the planting area
- (11) all work must conform with the existing bank at the upstream and downstream limits of the project site
- (12) do not leave felled trees, brush, or other debris in the floodway *
- (13) all riprap placed for bank stabilization must conform to the bank
- (14) upon completion of the project, remove all construction debris from the floodway *
- (15) upon completion of the project, remove all temporary sheet pile barriers from the floodway or cut or drive the sheet pile barriers so that the top of the sheet piling is flush with the top of the reactive cap
- (16) 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
- (17) 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
- (18) signs should be posted at the upstream and downstream limits of the construction site, to warn boating traffic of the ongoing work
- (19) * NOTE: for regulatory purposes, the floodway is defined as that shown on Panel 19 of the Lake County Flood Insurance Rate Map dated January 18, 2012



STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 27504

Indiana Department of Natural Resources
Carl Wodrich
Division of Land Acquisition
402 West Washington Street, Room W261
Indianapolis, IN 46204

Haley and Aldrich Inc
Stephen J Kelley
75 Washington Avenue
Portland, ME 04101

Baltimore and Ohio Railroad Company
CSX Transportation
500 Water Street, J910
Jacksonville, FL 32202

Jim Djuric
1616 White Oak Circle, Unit 1B
Munster, IN 46321

Federal Cement Products Inc
24 Marble Street
Hammond, IN 46320

Great Lakes Warehouse Corporation
11 Industrial Road
Hammond, IN 46323

Randal Hendrix
6304 Kennedy Avenue
Hammond, IN 46323

Illiana Scrap
Mike Thompson
13830 South Brainard Avenue
Chicago, IL 60633

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 Harbor Belt Railroad Company
PO Box 8499
Philadelphia, PA 19101-8499

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

Merchants National Bank of Aurora Tr 3918
105 Industrial Road
Hammond, IN 46323

Norfolk and Southern Railroad
Kathy Headrick
Strategic Planning 12th Floor
3 Commercial Place
Norfolk, VA 23510

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

RJ Huizinga Investments LLC
10910 Westwood Drive
Palos Hills, IL 60465

US Army Corps of Engineers
Chicago District
111 North Canal Street, Suite 600
Chicago, IL 60606

Staff Assignment:

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

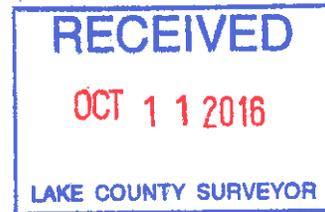
: Jennifer L. Ware
: Jennifer L. Ware
: J. Matthew Buffington
: Lori White
: Tom Torsell
: Cathy Draeger-Williams
: Tamika Ali-Yerima



5-B-5
10-A-14

October 7, 2016

Indiana Department of Transportation
100 North Senate Avenue
Room N642
Indianapolis, IN 46204



Attention: Bill Schmidt, PE
Hydraulics Engineer

Subject: **Culvert Replacement/Maintenance under I-65**
Watercourse: Tributary to Turkey Creek
Applicant: INDOT
Engineer: INDOT
(CBBEL Project No. 93-169)

Dear Mr. Schmidt:

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 Indiana Department of Transportation (INDOT). The submitted drainage memorandum includes five proposals for full replacement or slip-lining of an existing 7 ft. diameter Corrugated Metal Pipe (CMP). The existing culvert is located under I-65, approximately 0.5 miles north of US-30 on an Unnamed Tributary to Turkey Creek (UNT). The UNT does not contain mapped floodplain or floodway according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Lake County, IN, Panel 252 of 480, dated January 18, 2012. It appears the drainage area is just less than one square mile; therefore, no permit from the Indiana Department of Natural Resources – Division of Water (IDNR-DOW) 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.

CBBEL received the following items for review:

- Email responses from INDOT on September 30 and October 7 containing HY-8 input files, IDNR-DOW Peak Flowrate worksheet, hydrograph worksheet, and existing I-65 plans.

CBBEL staff has reviewed the supplied preliminary information and concludes that all previous comments have been addressed. All proposed pipe replacement options appear to improve the existing conveyance capacity of the crossing. The pipe will be replaced at existing invert elevations. Since this is a preliminary analysis, we recommend the following condition be met prior to issuance of a permit:

1. The finalized plan set should be forwarded to the LCSO once completed. These plans should include a Soil Erosion and Sediment Control Plan to demonstrate all disturbed areas within the 75-ft. Drainage Easement will be properly stabilized and restored. This will likely require a follow-up review at this time.

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

DCO\
N:\INDIANA\93169\2016\Reviews\L_Turkey Creek INDOT 100616.docx

5-B-6
10-19-16



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

October 12, 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 September

September 12th – September 29th

Beaver Dam Ditch Lateral #5	Removed Beaver Dam
Beaver Dam Ditch Lateral #8	Removed Beaver Dam
Turkey Creek	Removed Beaver Dam
Turkey Creek Lateral #6	Cleared Trash Grate and Debris

In addition, crew maintained/cleared easements along Sprout Ditch, removed beaver dams and fallen trees at Hart 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

Beaver Dam Ditch Lat. # 5 White Hawk Country Club

Center Twp.



Before

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

Beaver Dam Ditch Lateral # 5 White Hawk Country Club

Center Twp.



After

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

Beaver Dam Ditch Lat. # 8 Porter Street

Center Twp.



Before

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

Beaver Dam Ditch Lateral # 8 Porter Street

Center 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

Turkey Creek Lat # 6 Merrillville Middle School

Ross Twp.



Before

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

Turkey Creek Lat # 6 Merrillville Middle School

Ross Twp.



After

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

5-C-1
10-19-16



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

October 4, 2016

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

RE: Singleton Quarry Inspection

Dear Bill,

On Tuesday, October 4, 2016, while inspecting nearby areas of Singleton Ditch, you suggested we conduct an inspection of the Singleton Stone Quarry site as well.

At the time of the inspection, the elevation of Singleton ditch was low, at or below its normal low water level. Because of this, the quarry pit pump was running at the time of the inspection, and because of relatively dry conditions we were even able to drive down into the quarry pit itself, something we had previously been unable to do.

According to our observations on site it does appear that water entering the site is being contained within the site and directed to the three ponds as designed.

One issue however was noted, as the berm along the north side of pond 2 still has very little vegetation on the south facing slope (the pond side). The soil is clay and difficult to get seed to take root in, however quarry staff has agreed to reseed with winter wheat type grass to try again to get some established. You suggested topsoil may need to be brought in (and blanketed) later if that fails however.

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

Sincerely,

A handwritten signature in purple ink, appearing to read "Chris Brown".

Chris Brown
MS4 Compliance Inspector

Cc: Rich Budziak, MS4 Coordinator
Dan Gossman, Drainage Administrator
Lake County Drainage Board and Advisory Committee

5-D-1
10-17-16



Christopher B. Burke Engineering, LLC

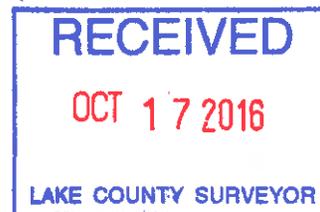
One Professional Center Suite 314 Crown Point, IN 46307 219.663.3410 cbbel-in.com

October 17, 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: Hart Ditch – US 30 to State Line
Invoice Review #4 – Release of Retainage
(CBBEL Project No. 930169)



Dear Mr. Emerson:

During the course of the Christopher B. Burke Engineering, LLC (CBBEL) review of invoices from KDM Services, LLC (KDM) for the Hart Ditch-US 30 to State Line Project, a total of \$20,635.07 was withheld as retainage for Pay Requests #1 through #3. This Pay Request #4, KDM Invoice #153119, is for the release of the retainage currently being held. Based on the completed work to date, CBBEL recommends payment in the following amount:

Total Improvements:	This Estimate	To Date
Value of Work Completed:		\$ 167,776.24
Less Retainage Held on Invoice #1:		\$ (2,265.68)
Less Retainage Held on Invoice #2:		\$ (11,672.04)
Less Retainage Held on Invoice #3:		\$ (6,697.35)
Release of Retainage from Invoice #1 through Invoice #3:	\$ 20,635.07	\$ 20,635.07
Balance:	\$ 20,635.07	\$ 167,776.24
Less Previous Payments:	n/a	\$ (147,141.17)
Subtotal:	\$ 20,635.07	\$ 20,635.07
Amount Due This Payment (Release of Retainage):	\$ 20,635.07	\$ 20,635.07

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

Sincerely,


Alan J. Walus, Senior Project Manager

Attached: KDM Services, LLC Invoice #153119 dated October 12, 2016

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

L93016902015-PH59 Hart Ditch US 30 to State Line Invoice Review 4 101716

LAKE COUNTY DRAINAGE BOARD


APPROVED THIS 19 DAY OF OCT 20 16

5-D-3
10-19-16

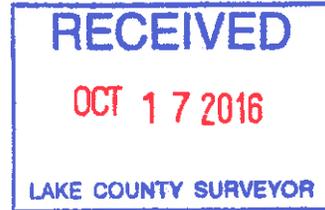


Christopher B. Burke Engineering, LLC

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

October 17, 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 #9 – Final Pay Request

Dear Mr. Emerson:

As requested, Christopher B. Burke Engineering, LLC staff (CBBEL) reviewed Invoice #153120 from KDM Services, LLC (KDM), dated October 16, 2016. This invoice represents the Final Pay Request for this project. As documented in previous Pay Request reviews and other CBBEL correspondence, the final contract value for the Cady Marsh Ditch – 2015 (Highland) Project is \$404,152.27. Based on the completed work to date, CBBEL recommends payment in the following amount to closeout this project:

Total Improvements:	This Estimate	To Date
Value of Work Completed:		\$ 404,152.27
Less Previous Payments:		\$ (401,965.85)
Subtotal:		\$ 2,186.42
Amount Due This Payment	\$ 2,186.42	\$ 2,186.42

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

Sincerely,

Alan J. Walus, Senior Project Manager

LAKE COUNTY DRAINAGE BOARD

Kyle W. Alton Sr. D.H.
APPROVED THIS 19 DAY OF OCT 20 16

Attached: KDM Services, LLC Invoice #153120 dated October 16, 2016

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

L9301690001 Cady Marsh Invoice 9 Review 101716



STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

5-D-5
10-19-14
DNR

**CERTIFICATE OF APPROVAL
CONSTRUCTION IN A FLOODWAY**

APPLICATION # : FW-28513

MAILED: October 11, 2016

STREAM : Main Beaver Dam Ditch

APPLICANT : Lake County Surveyors Office
Dan Gossman
2293 North Main Street, Suite A
Crown Point, IN 46307-1854

RECEIVED
OCT 11 2016
LAKE COUNTY SURVEYOR

AGENT : Christopher B Burke Engineering LLC
Jamie Cook
Suite 1368 South
115 West Washington Street
Indianapolis, IN 46204

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

DESCRIPTION : The project proposes log jam removal (clearing and snagging), channel bank fill (slope repair), channel bank stabilization (fabric wraps), vegetative stabilization, and riprap bank protection from Stations 0+00 to 1+29 on the south bank of the channel. Material removed shall be disposed of by a method approved by the Lake County Surveyor's Office. All work will be performed within the existing 75' easement. Details of the project are contained in information received electronically at the Division of Water on July 19, 2016 and in plans and information received at the Division of Water on August 4, 2016 and September 6, 2016.

LOCATION : Beginning approximately 1,650' upstream from Canter Ross Road (West 101st Avenue) working upstream and ending at a point 129' upstream located in Section 33, Township 35 North, Range 8 West, Ross Township, Lake County at Crown Point, Ross Township, Lake County
Section 33, T 35N, R 8W, Crown Point Quadrangle
UTM Coordinates: Downstream 4587280 North, 471268 East

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

APPROVED ON : October 11, 2016

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW

APPLICATION #: FW- 28513

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- 28513

- (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>
Little Calumet River Basin Development Commission	(219) 595-0599
US Army Corps of Engineers	(502) 315-6686
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- 28513

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 October 11, 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 October 11, 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: July 19, 2016, August 4, 2016 and September 6, 2016. Any deviation from the information must receive the prior written approval of the Department.

<u>Number</u>	<u>Special Condition</u>
(1)	Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife's Environmental Unit.
(2)	Revegetate all bare and disturbed areas, except for land that will be used for crop production in the next growing season, 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.
(3)	Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 3" in diameter, living or dead, with loose hanging bark or with cracks, crevices, or cavities) from April 1 through September 30.
(4)	Do not excavate or place spoil in any riparian wetland.
(5)	Limit any channel widening and bank disturbances to the least vegetated side of the waterway.
(6)	Revegetate all areas disturbed during debris and sediment removal. Permanent seed and fertilize disturbed ditch banks at the end of each day. Revegetate areas with one of the seeding mixtures or species listed in the VEGETATIVE STABILIZATION AND SEEDING PRACTICE of the INDIANA DRAINAGE HANDBOOK from the Division of Water, Indiana Department of natural Resources (October 1996) or other species that are approved by the Department as being suitable to site and climate conditions. At the completion of the project, re-seed and fertilize areas that do not have sufficient vegetative cover to control erosion.
(7)	Revegetate all spoil materials deposited in areas not used for crop production.
(8)	A representative of the Surveyor's Office or their contractor shall inspect erosion and sediment control practices daily and repair as necessary until all construction is complete and disturbed areas are permanently stabilized.
(9)	Install appropriate sediment control measures to prevent the flow of sediment laden water, resulting from dredging operations, back into the watercourse.

**STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES**

SPECIAL CONDITIONS

APPLICATION #: FW- 28513

- (10) All work must conform with the existing bank at the upstream and downstream limits of the project site.
- (11) Except for trees cabled in-place for bank protection, do not leave felled trees, brush, or other debris in the floodway.
- (12) Keep all spoils out of the floodway as defined as that shown on Panels 18089C0261E and 18089C0262E of the Lake County and Incorporated Areas Flood Insurance Rate Map dated January 18, 2012.

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 28513

Lake County Surveyors Office
Dan Gossman
2293 North Main Street, Suite A
Crown Point, IN 46307-1854

Christopher B Burke Engineering LLC
Jamie Cook
Suite 1368 South
115 West Washington Street
Indianapolis, IN 46204

Fatana M Arifee
1432 Edgewater Road
Crown Point, IN 46307

City of Crown Point
101 North East Street
Crown Point, IN 46307

Crown Point Plan Commission
Tris A Miles, PE
101 North East Street
Crown Point, IN 46307-4027

Christopher Echols
1414 Edgewater Road
Crown Point, IN 46307

Leandrew and Dionne Edwards
1427 Edgewater Road
Crown Point, IN 46307

Jonathan R Graves
1419 Edgewater Road
Crown Point, IN 46307

Raymond Paul and Janice M Guemse
1424 Edgewater Road
Crown Point, IN 46307

Keith and Kay Hauber
1420 Edgewater Road
Crown Point, IN 46307

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 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

Richard C and Karen L Maynard
1431 Edgewater Road
Crown Point, IN 46307

Jhammad Mukhtar
1432 Edgewater Road
Crown Point, IN 46307

Anna Novelli
1415 Edgewater Road
Crown Point, IN 46307

Peter J and Frances M Kovacik Living Trust
1428 Edgewater Road
Crown Point, IN 46307

Arnold and Gloria and Cal Reyes
1423 Edgewater Road
Crown Point, IN 46307

US Army Corps of Engineers
Louisville District
PO Box 59
Louisville, KY 40201-0059

Staff Assignment:

Administrative
Fish and Wildlife
Engineering

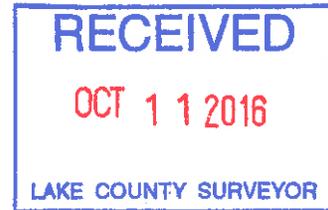
: Nicholas Males
: Erin Basiger
: Nicole Solitto

Co-A
10-19-16



October 11, 2016

Enbridge Energy, Limited Partnership
119 North 25th Street East
Superior, WI 54880



Attention: Ms. Keely D. Pearson
Senior Environmental Specialist

Subject: **Enbridge Energy Routine Pipeline Maintenance Work
(Line 6A, Milepost 461.7608)**
Watercourse: Hart Ditch
Applicant: Enbridge Energy, Limited Partnership
(CBBEL Project No. 93-169)

Dear Ms. Pearson:

Christopher B. Burke Engineering, LLC (CBBEL) has performed a review of the material submitted by Enbridge Energy, Limited Partnership (Enbridge) for the permit application for routine maintenance along Enbridge's existing Line 6A pipeline at Milepost 461.7608. The purpose of the work is to inspect the existing pipeline and make any necessary repairs. Excavation will occur within the western easement of Hart Ditch, without any disturbance to the waterway.

CBBEL received the following items for review:

- Letter, prepared by Enbridge, dated September 14, 2016.
- Completed and signed Lake County Drainage Board Permit Application
- Copy of Project Description for Maintenance Work in Lake County by Enbridge Energy for Line 6A, Milepost 461.7608
- Revised Figures and Site Plan for Line 6A, Milepost 461.7608, dated September 29, 2016

CBBEL staff has reviewed the supplied information and recommends approval with the following conditions:

1. The plan set should be signed and sealed by an Indiana Registered Professional Engineer.

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
James Anklam – Enbridge Energy

TTB\all
N:\INDIANA\93169\2016\Reviews\1_Enbridge Routine Pipeline Maintenance Work_101116.docx



Bill Emerson, Jr.
County Surveyor

6-A
10-19-16

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



6-C

NOTICE OF ACTION
Application No. 302-9-16-1

September 21, 2016

Brian Meier, Mainline Projects US
Enbridge Energy, Limited Partnership
1409 Hammond Avenue
Superior, WI 54880

DEAR PETITIONER:

THIS NOTICE IS TO INFORM YOU THAT YOUR PETITION OR REQUEST FOR

Hart Ditch/Plum Creek, St. John Township
Applicant: Enbridge energy, Limited Partnership
Application to Perform Work within a Regulated Drain/Easement for the purpose of routine pipeline maintenance.

WAS CONSIDERED BY THE DRAINAGE BOARD AT A MEETING ON THE 21st DAY OF SEPTEMBER, 2016 WITH THE FOLLOWING ACTION:

- APPROVED PETITION OR REQUEST.
- APPROVED PETITION OR REQUEST SUBJECT TO CONDITIONS LISTED ON ATTACHMENT #1.
- CONTINUED PETITION OR REQUEST TO **OCTOBER 19, 2016** MEETING.
- DENIED PETITION OR REQUEST.
- REMOVED FROM THE AGENDA. IF YOU WOULD LIKE TO REAPPLY TO THE DRAINAGE BOARD *A NEW APPLICATION WILL NEED TO BE SUBMITTED, 14 DAYS PRIOR TO THAT MONTH'S MEETING.*
- PETITION NOT RELEASED DUE TO NON-PAYMENT OF APPLICATION FEE(S).

IF YOU HAVE ANY FURTHER QUESTIONS, PLEASE CONTACT BILL EMERSON, JR. OR DAN GOSSMAN AT (219) 755-3745.

MARY ELLEN KUPSIK
Lake County Drainage Board Secretary

C-A
10-19-16

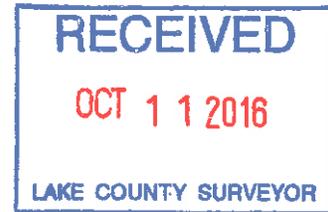


Christopher B. Burke Engineering, LLC

One Professional Center Suite 314 Crown Point, IN 46307 219.663.3420 cbbel-in.com

October 11, 2016

Enbridge Energy, Limited Partnership
119 North 25th Street East
Superior, WI 54880



Attention: Ms. Keely D. Pearson
Senior Environmental Specialist

Subject: **Enbridge Energy Routine Pipeline Maintenance Work
(Line 6A, Milepost 461.7608)**
Watercourse: Hart Ditch
Applicant: Enbridge Energy, Limited Partnership
(CBBEL Project No. 93-169)

Dear Ms. Pearson:

Christopher B. Burke Engineering, LLC (CBBEL) has performed a review of the material submitted by Enbridge Energy, Limited Partnership (Enbridge) for the permit application for routine maintenance along Enbridge's existing Line 6A pipeline at Milepost 461.7608. The purpose of the work is to inspect the existing pipeline and make any necessary repairs. Excavation will occur within the western easement of Hart Ditch, without any disturbance to the waterway.

CBBEL received the following items for review:

- Letter, prepared by Enbridge, dated September 14, 2016.
- Completed and signed Lake County Drainage Board Permit Application
- Copy of Project Description for Maintenance Work in Lake County by Enbridge Energy for Line 6A, Milepost 461.7608
- Revised Figures and Site Plan for Line 6A, Milepost 461.7608, dated September 29, 2016

CBBEL staff has reviewed the supplied information and recommends approval with the following conditions:

1. The plan set should be signed and sealed by an Indiana Registered Professional Engineer.

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
James Anklam – Enbridge Energy

TTB\sl
N:\INDIANA\93169\2016\Reviews\L_Enbridge Routine Pipeline Maintenance Work_101116.docx



Handout
6-B
9-21-16

Christopher B. Burke Engineering, LLC

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

September 20, 2016

Enbridge Energy, Limited Partnership
119 North 25th Street East
Superior, WI 54880

Attention: Ms. Keely D. Pearson
Senior Environmental Specialist

Subject: **Enbridge Energy Routine Pipeline Maintenance Work
(Line 6A, Milepost 461.7608)**
Watercourse: Hart Ditch
Applicant: Enbridge Energy, Limited Partnership
(CBBEL Project No. 93-169)

Dear Ms. Pearson:

Christopher B. Burke Engineering, LLC (CBBEL) has performed a review of the material submitted by Enbridge Energy, Limited Partnership (Enbridge) for the permit application for routine maintenance along Enbridge's existing Line 6A pipeline at Milepost 461.7608. The purpose of the work is to inspect the existing pipeline and make any necessary repairs. Excavation will occur within the western easement of Hart Ditch, without any disturbance to the waterway.

CBBEL received the following items for review:

- Letter, prepared by Enbridge, dated September 14, 2016.
- Completed and signed Lake County Drainage Board Permit Application
- Copy of Project Description for Maintenance Work in Lake County by Enbridge Energy for Line 6A, Milepost 461.7608
- Figures and Site Plan for Line 6A, Milepost 461.7608

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

1. The plan set should be signed and sealed by an Indiana Registered Professional Engineer.
2. The stockpiling of material is proposed within the floodway of Hart Ditch. Therefore, the applicant should contact the Indiana Department of Natural Resources – Division of Water (IDNR-DOW) regarding a Floodway Construction Permit is required. The stockpiling of excavated material is not a permissible activity.

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
James Anklam – Enbridge Energy

TTB\sl
N:\INDIANA\93169\2016\Reviews\L_Enbridge Routine Pipeline Maintenance Work_092016.docx



- Maintenance Location
- Access Route
- Erosion Control Barrier
- Dewatering Area
- ▨ Excavation Extent
- Soil Stockpile
- ▭ Temporary Workspace/ Area to be Cleared
- Drainage Easement
- FEMA 100-Year Flood Zones
- AE
- AE; FLOODWAY



Feet

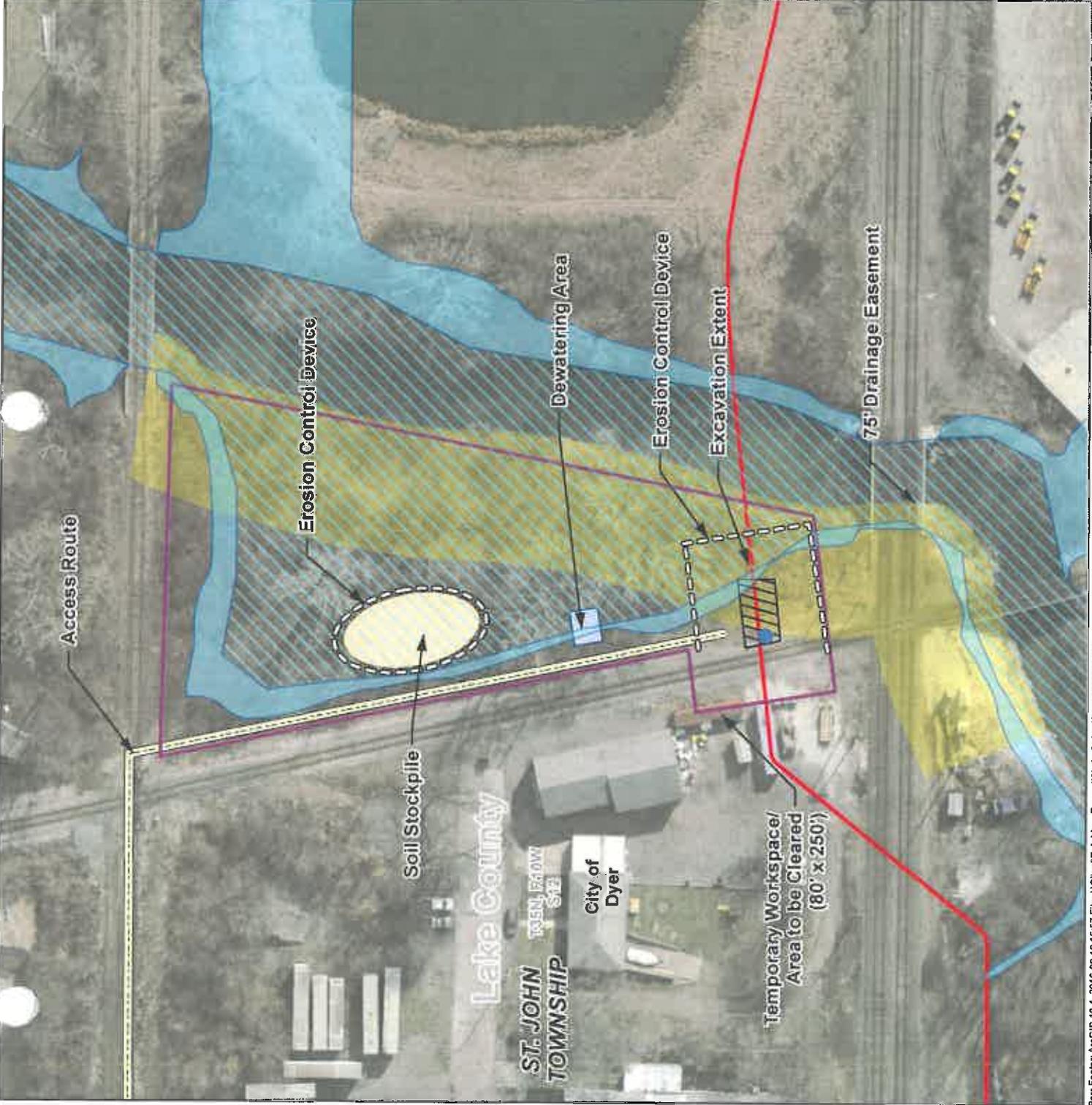
1 Inch = 80 Feet

Imagery: Lake County, 2013

SITE PLAN

Line 6A

Milepost 461.7608



Co-B
9-21-16



James Anklam
Environmental Specialist

tel 715 398 4761
fax 715 394 1500
james.anklam@enbridge.com

Enbridge Energy, Limited
Partnership
119 North 25th Street East
Superior, WI 54880

September 14, 2016

Lake County Drainage Board
Lake County Government Center
Building 'A', 3rd Floor
2293 North Main Street
Crown Point, IN 46307



Re: Application to Work within Plum Creek Easement
Enbridge Energy, Limited Partnership, Routine Pipeline Maintenance Work
Line 6A, Milepost 461.7608
Lake County, Indiana

To Whom It May Concern:

Enbridge Energy, Limited Partnership (Enbridge) is submitting the enclosed permit application for routine maintenance along Enbridge's existing Line 6A pipeline at Milepost 461.7608. The maintenance work involves excavation around one section of pipeline identified through Enbridge's internal pipeline inspection program.

The purpose of the work is to inspect the existing pipeline and make any repairs, if necessary. The excavation will be within the western easement of Plum Creek; no work will be within the waterway. No buildings or structures will be constructed and the site will be returned to pre-existing conditions after the pipeline is inspected. Work is scheduled to begin in October 2016.

Enclosed please find a project description and supporting figures. If you have questions about the information presented in this permit application, please contact me at (715) 398-4761.

Sincerely,

James Anklam
Environmental Specialist
Enbridge Energy, Limited Partnership

Enclosures: Supplemental Information and Site Figures

Cc: Brian Meier, Mainline Projects US, Enbridge Energy
Sabrin Zayed, Construction Supervisor, Enbridge Energy
Alina Heydt, Barr Engineering Company
Project Files

APPLICATION NO. 302-9-16-I

APPLICATION FOR PERMISSION TO PERFORM THE FOLLOWING TASK(S) WITHIN A REGULATED DRAIN

[PLEASE CHECK THE APPROPRIATE BOX]

- I. **WORK WITHIN A REGULATED DRAIN** Work within drain easement only; no work in the waterway.
- 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) Enbridge Energy, Limited Partnership

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: Plum Creek

SECTION(s): 12 TOWNSHIP: 35 N RANGE: 10 W

ADDRESS OR DESCRIPTION OF LOCATION: Enbridge Energy's Line 6A, Milepost 461.7608 in the City of Dyer, Lake County. Refer to the attached Site Location maps.

PIN # 45-10-12-503-023.000-034

THE REQUEST IS TO CONSIST OF THE FOLLOWING ACTIVITIES:

One excavation approximately 15 to 20 feet wide, 20 to 40 feet long, and 15 feet deep is required for inspection and potential repair. The work will be located in the west drain easement of Plum Creek; no work will be in the waterbody. Refer to the attached Project Description.

THE PURPOSE OF THE REQUEST IS TO:

Obtain approval from the Lake County Drainage Board for temporary disturbance within the west drain easement of Plum Creek to conduct routine pipeline maintenance.

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.

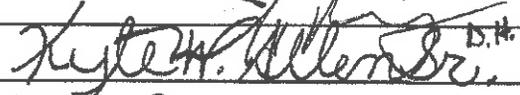
SUBMITTED: Brian Meier, Enbridge Energy DATE: 9/14/16
 (PRINT OR TYPE NAME)

 (SIGNATURE)

SUBMITTED FOR: Enbridge Energy, Limited Partnership
 ADDRESS: 1409 Hammond Avenue
Superior, WI 54880
 PHONE#: 715-718-5318

(THIS SECTION FOR DRAINAGE BOARD USE ONLY)

LAKE COUNTY DRAINAGE BOARD


 D.S.

DATE: 10-19-16 APPROVED: X 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.

**Project Description
Maintenance Work in Lake County
Enbridge Energy, Limited Partnership
Line 6A, Milepost 461.7608**

General Project Description

Pipeline maintenance work is planned by Enbridge Energy, Limited Partnership (Enbridge) on Line 6A in the City of Dyer, Lake County. Enbridge plans to conduct this maintenance work in the fall of 2016. The purpose of this planned work is to excavate, inspect, and if necessary, repair one section of pipeline. The maintenance location was identified through Enbridge's pipeline inspection program and is shown on the attached Site Location Figures.

Proposed Temporary Impacts

All excavation will occur within Enbridge's existing right-of-way (ROW). The area around the pipeline will be excavated, then the pipeline will be visually and physically inspected, and repaired as needed. In addition, the scope at this site includes casing remediation work, which involves recreating an end seal on the east end of the casing and injecting gel inhibitor into the pipeline casing. The gel inhibitor is used to displace water and prevent the development of any further corrosion within the casing. To complete this work, the excavation size will be approximately 15 to 20 feet wide, 20 to 40 feet long, and approximately 15 feet deep and will be located in the western easement of Plum Creek. No work will occur within the bed or banks of the drain. Refer to the attached Figures for additional information.

In order to complete the work, tree clearing and brushing will be required within the drainage easement. A triangular shaped area of approximately 190 feet at the bottom, with sides of approximately 380 feet will need to be cleared. This area is outlined in the attached figures as the "temporary work space / area to be cleared."

Equipment used will include a backhoe or similar excavator, and trucks to transport personnel, equipment and soil. Approximately 12 inches of topsoil will be stripped and stockpiled separately from subsoil to preserve the native seed stock, as practical.

Construction Sequence

The duration of activities related to the maintenance work is anticipated to take approximately 10 to 14 days to complete and is scheduled to begin upon receipt the permit. The typical sequence of work is:

- installation of Best Management Practices (BMPs);
- stripping and/or clearing of the excavation area, as necessary;
- excavation of the pipeline anomaly;
- evaluation and repair of the pipeline, as necessary (repair typically involves welding a metal sleeve around the existing pipeline and re-coating the pipeline);
- casing remediation (recreating the end seal and injecting gel into the pipeline casing);
- backfill in the same stratification in which the soil was removed (i.e. topsoil on top of the subsoil) and grade restoration of the excavation with the excavated spoil material; and
- permanent restoration.

Soil Erosion and Sediment Control Measures

Enbridge will limit the amount of ground disturbance and maintain the greatest amount of vegetative cover possible to minimize the potential for erosion. During construction, proper sediment and erosion control techniques will be observed to prevent sediment from leaving the site. BMPs will be installed as needed prior to soil disturbance and in accordance with Enbridge's Environmental Mitigation Plan (EMP). BMPs will be maintained by Enbridge pipeline maintenance personnel and repairs will be completed within 24 hours of discovery, as needed. Figures showing typical installation of erosion control structures are attached.

BMPs may include silt fence, timber mats, erosion control blankets, trenched-in biologs, or others. Per Enbridge's EMP, temporary BMPs will be installed at the base of sloped approaches to streams, wetlands, and roads. Temporary BMPs will also be installed at the edge of the right-of-way, as needed, and/or in other areas to slow water leaving the site and prevent siltation of waterbodies and wetlands downslope of the right-of-way. Temporary BMPs will be placed across the entire construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from tile line inlets, drainage ways, wetlands, and/or waterbodies until the area is revegetated and there is no potential scouring or sediment transport to surface waters. Site conditions will determine the final selection and placement of BMPs.

The site will be accessed Sheffield Avenue travelling east along an abandoned railroad line, then turning south and travelling approximately 375 feet along a railroad to Enbridge's ROW and the maintenance location (refer to the attached Access Route Figure). If needed, travel lanes and construction pads will be constructed using timber mats to minimize soil disturbance where within wetlands. Vehicle tracking of soil from the site will be minimized by installation and implementation of BMPs such as timber mat access pads or stone pads, and reducing equipment/vehicle access where practicable. Streets will be inspected daily. If BMPs do not adequately prevent sediment from being tracked onto the road, street sweeping or other equivalent means of collecting sediment will be used.

Dewatering inside the excavation may be required. All discharge will be directed to a filter bag or a dewatering structure (see attached typical figures) located in an upland infiltration location, if possible. No dewatered discharge or resultant runoff will be discharged into the nearby waterways.

Restoration

Upon completion of the work, the excavation will be backfilled to preconstruction conditions, the sites will be seeded and upland areas will be mulched. Restoration activities may include maintaining BMPs (e.g. silt fence, mulching, and/or erosion control blankets) and/or temporary seeding until the site has been restored. Permanent revegetation will involve preparing the seedbed and seeding disturbed areas. The ROW will be seeded as soon as possible after backfilling. Specific seed mixes, application rates, and seeding dates will take into account recommendations of appropriate state and federal agencies and landowner requests, as appropriate. An Environmental Inspector will visit the site following restoration activities and confirm the site has been stabilized. If necessary, Enbridge may return to the site to complete follow-up restoration work until final stabilization has been reached and the work area returned to pre-construction conditions. Erosion and sediment control BMPs will be removed from the site after revegetation has occurred.

Notifications

Landowners will be notified of the maintenance work, as needed. Enbridge also works closely with the appropriate highway departments if work is within a roadway.

Line 6A, Milepost 461.7608

Figures and Site Plan



● Maintenance Location

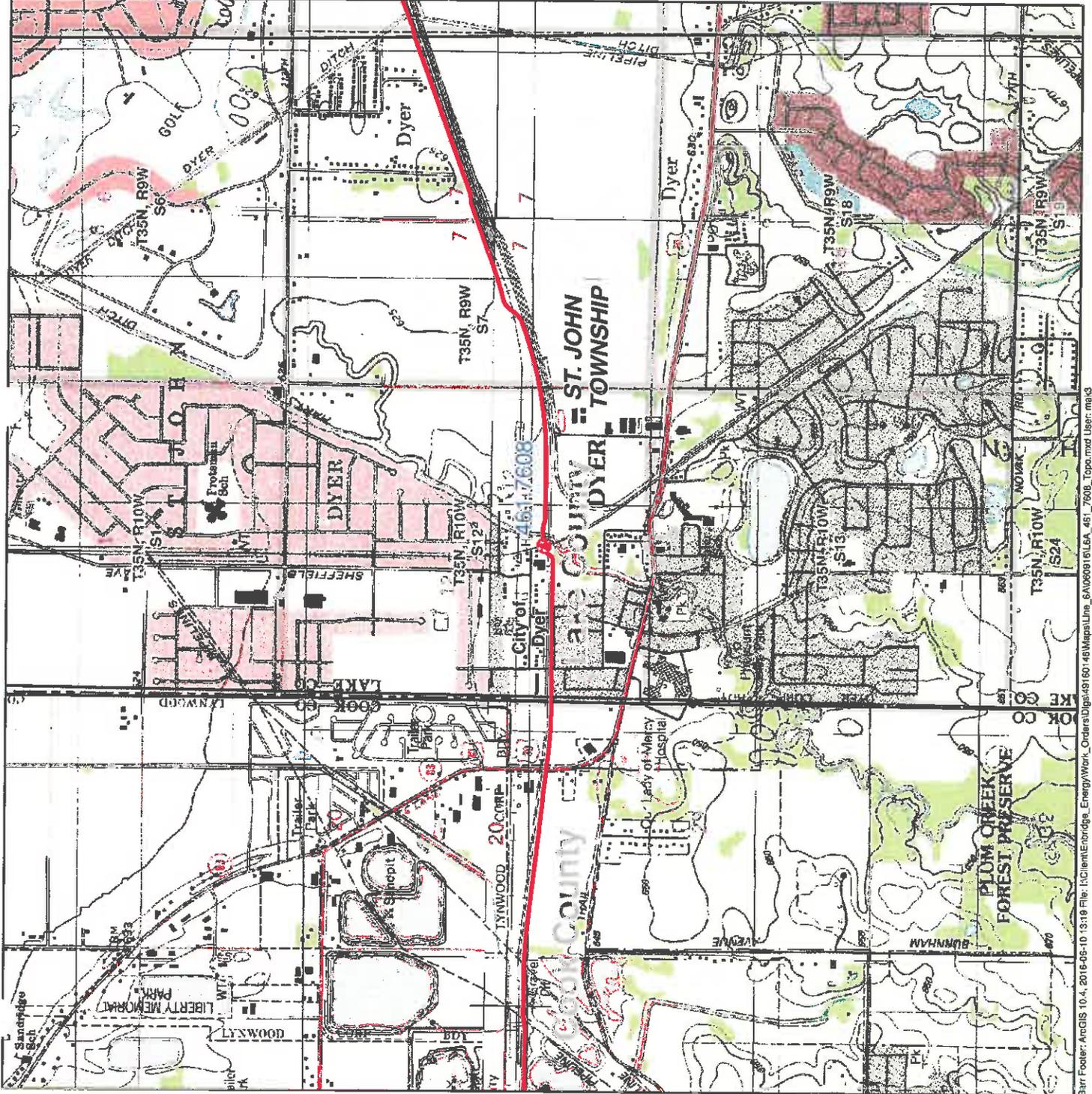


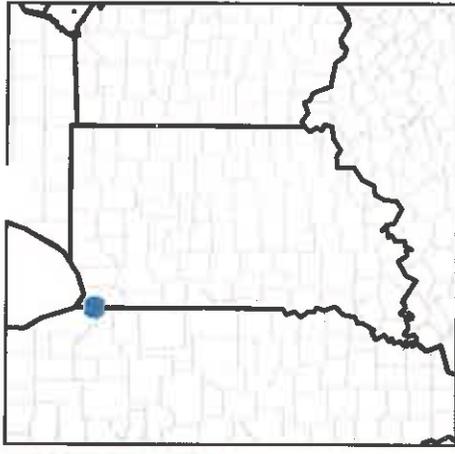
0 2,000 4,000
Feet

1 Inch = 2,000 Feet

**EXCAVATION SITE
LOCATION**
Line 6A

Milepost 461.7608





● Maintenance Location

National Wetlands Inventory

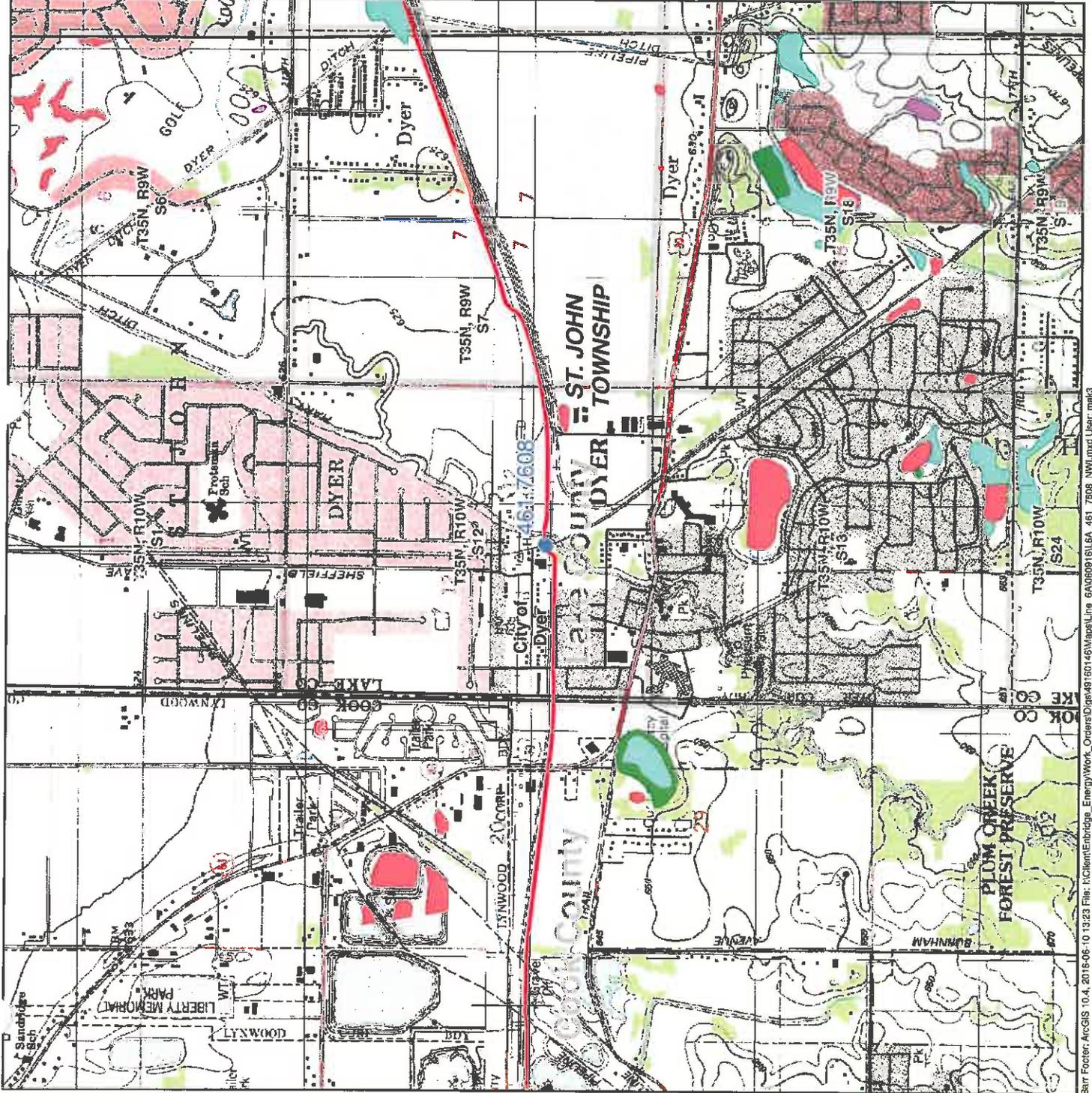
- Aquatic Bed
- Emergent
- Forested
- Scrub - Shrub
- Unconsolidated Bottom
- Unconsolidated Shoreline



0 2,000 4,000
Feet

1 Inch = 2,000 Feet

EXCAVATION SITE
LOCATION
Line 6A
Milepost 461.7608





- Maintenance Location
- Access Route
- Temporary Workspace/ Area to be Cleared



Feet

1 Inch = 150 Feet
Imagery: Microsoft, 2012

ACCESS ROUTE
Line 6A
Milepost 461.7608





- Maintenance Location
- Access Route
- Erosion Control Barrier
- Dewatering Area
- Excavation Extent
- Soil Stockpile
- Temporary Workspace/ Area to be Cleared
- Drainage Easement



Feet

1 Inch = 80 Feet
 Imagery: Microsoft; 2012

SITE PLAN
 Line 6A
 Milepost 461.7608



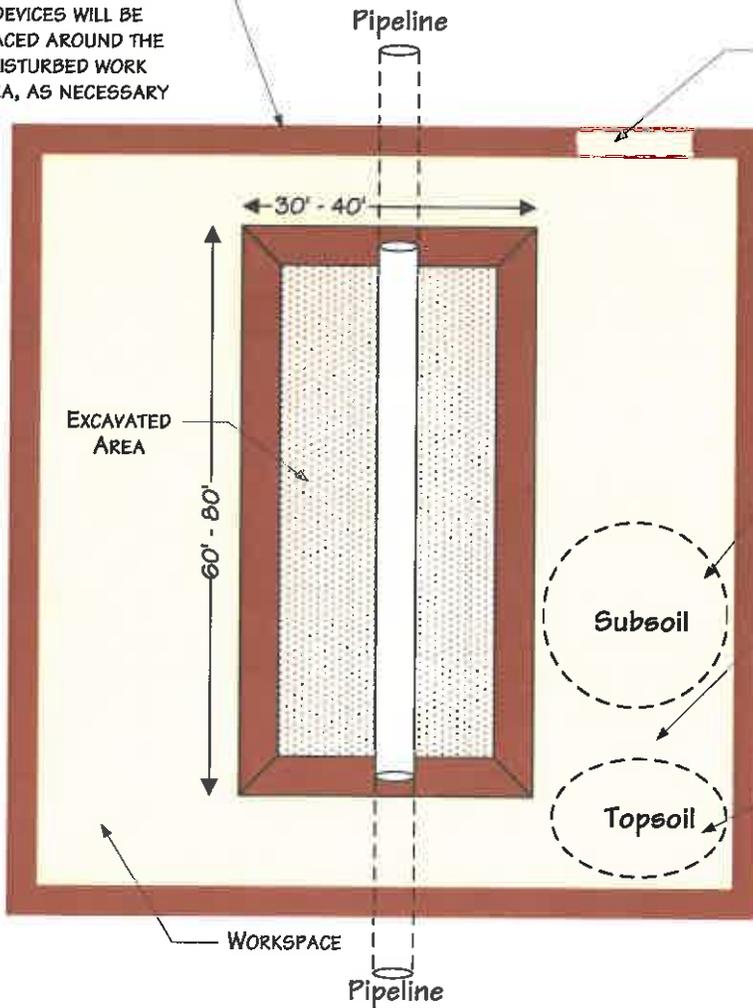
Typical Figures



PLACE EROSION CONTROL DEVICES, AS NECESSARY

EROSION CONTROL DEVICES WILL BE PLACED AROUND THE DISTURBED WORK AREA, AS NECESSARY

EROSION CONTROL DEVICES WILL BE PLACED ACROSS OPENING AT END OF THE DAY



EXCAVATED SUBSOIL WILL BE STOCKPILED NEAR THE EXCAVATION WITHIN ECD'S, AS NECESSARY

MINIMUM ONE FOOT SEPARATION MUST BE MAINTAINED BETWEEN TOPSOIL AND SUBSOIL OR A PHYSICAL BARRIER SHOULD BE USED.

STOCKPILE TOPSOIL SEPARATELY FROM SUBSOIL

For environmental review purposes only.



Figure 1
Environmental Mitigation Plan
 Typical Maintenance Excavation
 Plan View

DATE: 3/23/2015

REVISED: 4/8/2015

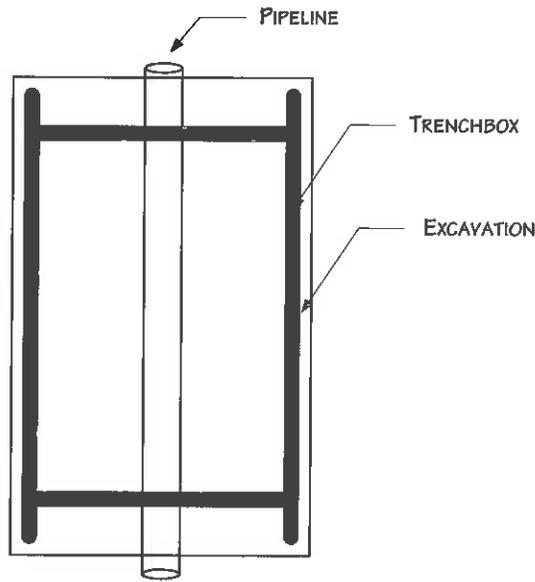
SCALE: NTS

DRAWN BY: JEBAKKEN

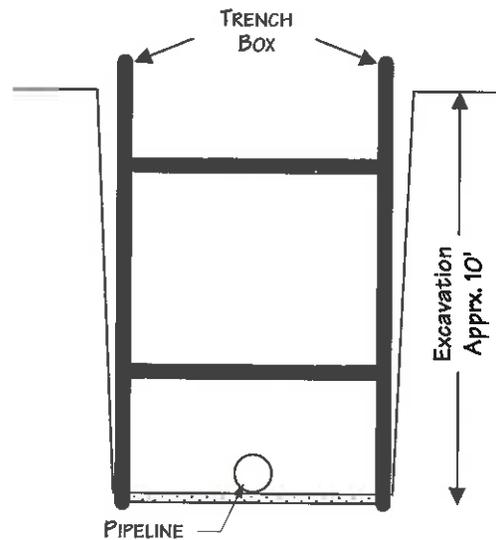
K:\CLIENT PROJECTS\ID-FEELBARR\201504\REVISED TYPICALS\FIG_01_MAINT_EXCAVATION.VSD



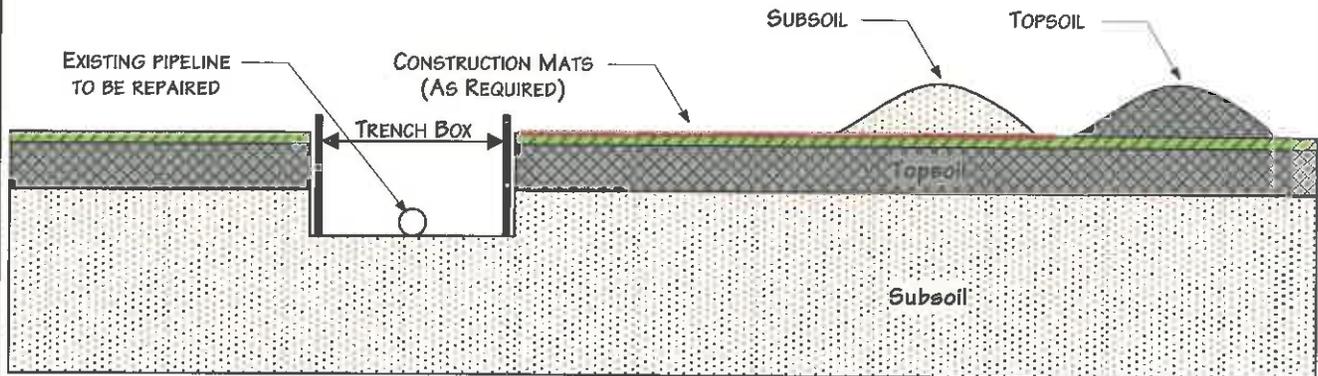
NOTE: TRENCH BOXES CONSIST OF TWO STEEL PLATES THAT HOLD UP THE SIDES OF AN EXCAVATION. THE PLATES ARE HELD IN PLACE BY STEEL BRACES.



PLAN: TRENCH BOX



PROFILE: TRENCH BOX



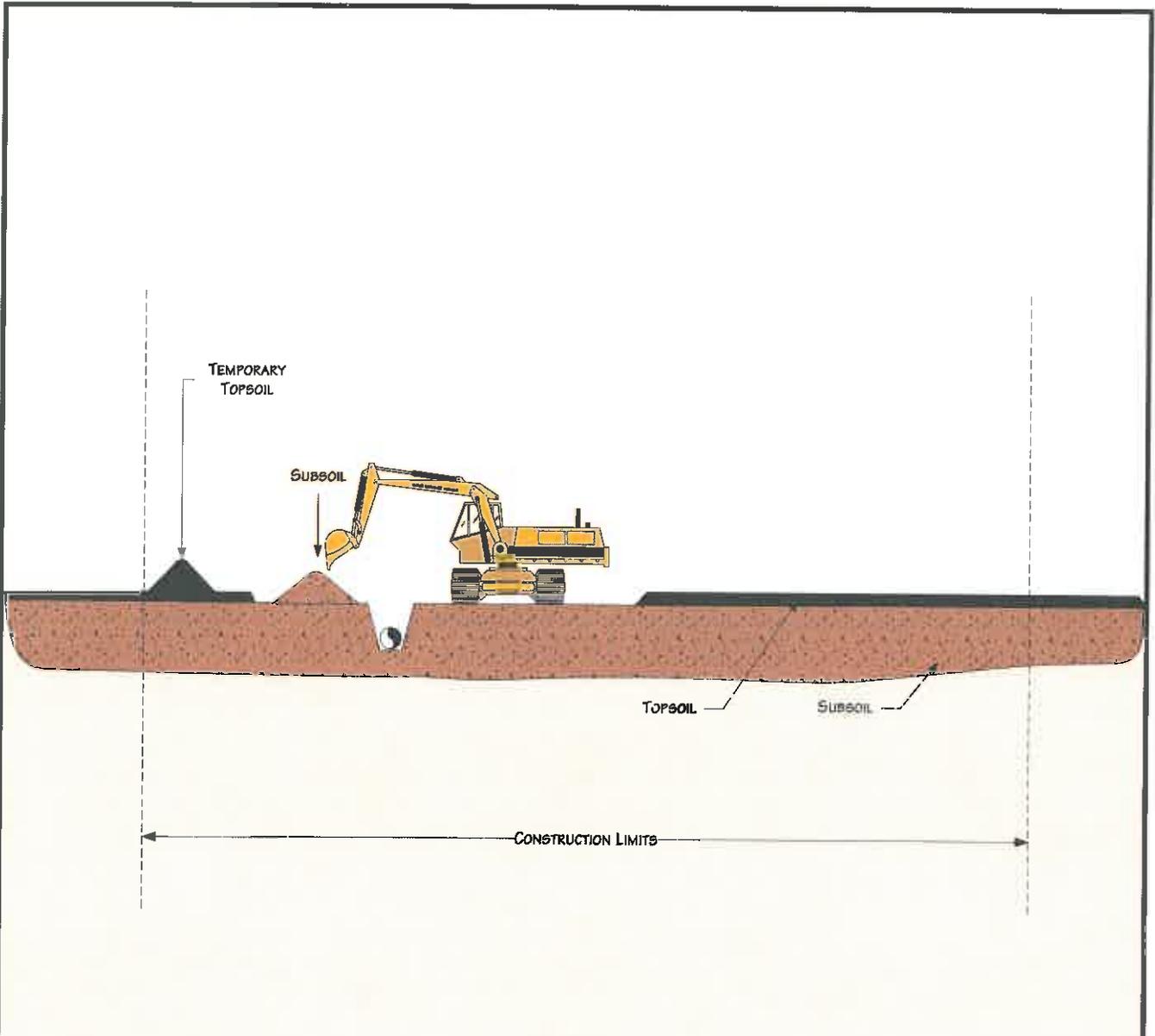
PROFILE: TRENCH BOX

For environmental review purposes only.



Figure 2
Environmental Mitigation Plan
Typical Trench Box

DATE: 3/23/2015	
REVISED: 4/8/2015	
SCALE: NTS	
DRAWN BY: JEBAKKEN	
K1 CLIENT PROJECTS\SD-FEELBARRI 2015\04\REVISED TYPICALS FIG_02_TRENCH_BOX.VSD	



PROFILE

NOTES:

1. STOCKPILE TOPSOIL SEPARATELY FROM SUBSOIL AS SHOWN OR IN OTHER CONFIGURATIONS APPROVED BY THE COMPANY.
2. MINIMUM ONE FOOT SEPARATION MUST BE MAINTAINED BETWEEN TOPSOIL AND SUBSOIL OR A PHYSICAL BARRIER SHOULD BE USED.



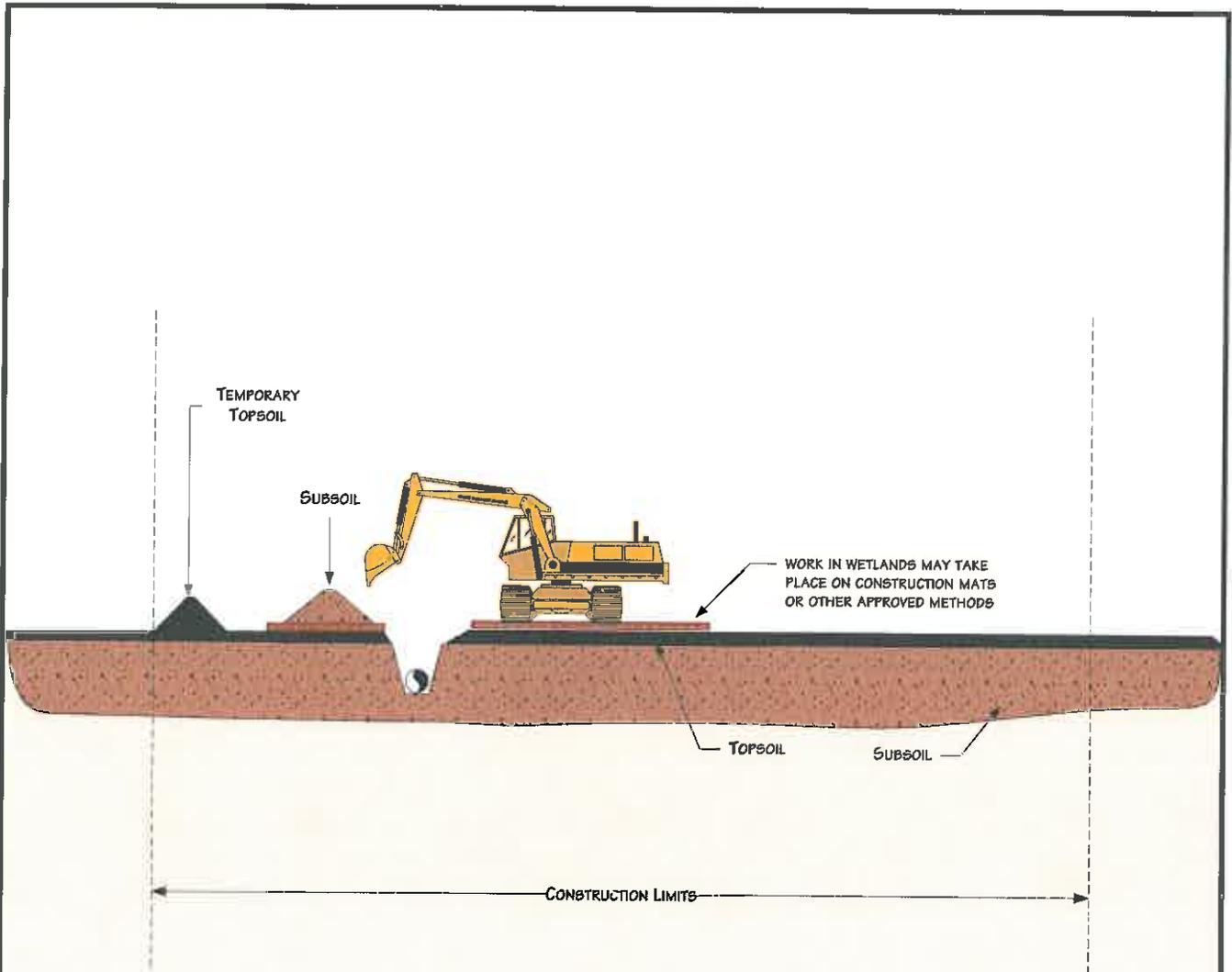
Figure 3
Environmental Mitigation Plan
Typical Topsoil Segregation – Upland

DATE: 7/9/2001

REVISED: 4/7/2015

SCALE: NTS

DRAWN BY: JPROENTJE
63 CLIENT PROJECTS/OBJECT BARR
 2015/04/REVISED_TYPICALS/
 FIG_03_TOPSOIL_SEGREGATION_UPLAND
 .VSD



PROFILE

NOTES:

1. STOCKPILE TOPSOIL SEPARATELY FROM SUBSOIL AS SHOWN OR IN OTHER CONFIGURATIONS APPROVED BY THE COMPANY.
2. MINIMUM ONE FOOT SEPARATION MUST BE MAINTAINED BETWEEN TOPSOIL AND SUBSOIL OR A PHYSICAL BARRIER SHOULD BE USED.
3. TO MINIMIZE WETLAND DISTURBANCE, WORK IN WETLANDS MAY TAKE PLACE ON CONSTRUCTION MATS OR OTHER APPROVED METHODS.
4. ALL STOCKPILES WILL BE PLACED ON CONSTRUCTION MATS WITHIN SATURATED WETLANDS



Figure 4
Environmental Mitigation Plan
Typical Topsoil Segregation – Wetland

DATE: 7/9/2001	
REVISED: 4/14/2015	
SCALE: NTS	at ENBRIDGE
DRAWN BY: JPROENTJE	
K3 CLIENT PROJECTS/02/EE/UD/001	
2015/04/REVISED TYPICALS	
FIG 04 TOPSOIL_SEGREGATION_WETLA	
ND.VSD	

NOTES:

1. SLOPE BREAKERS ARE PERMANENT EROSION CONTROL STRUCTURES.
2. STRAW BALES OR SILT FENCE SHALL BE REMOVED AFTER VEGETATION IS ESTABLISHED.
3. LOWEST BERM MAY BE OMITTED IF SILT FENCE OR STRAW BALES ARE INSTALLED AT THAT LOCATION.

AS APPROVED BY THE ENVIRONMENTAL INSPECTOR

Typical Spacing for Temp Waterbars	
Slope	Spacing (ft)
5 - 15	300
15 - 30	200
> 30	100

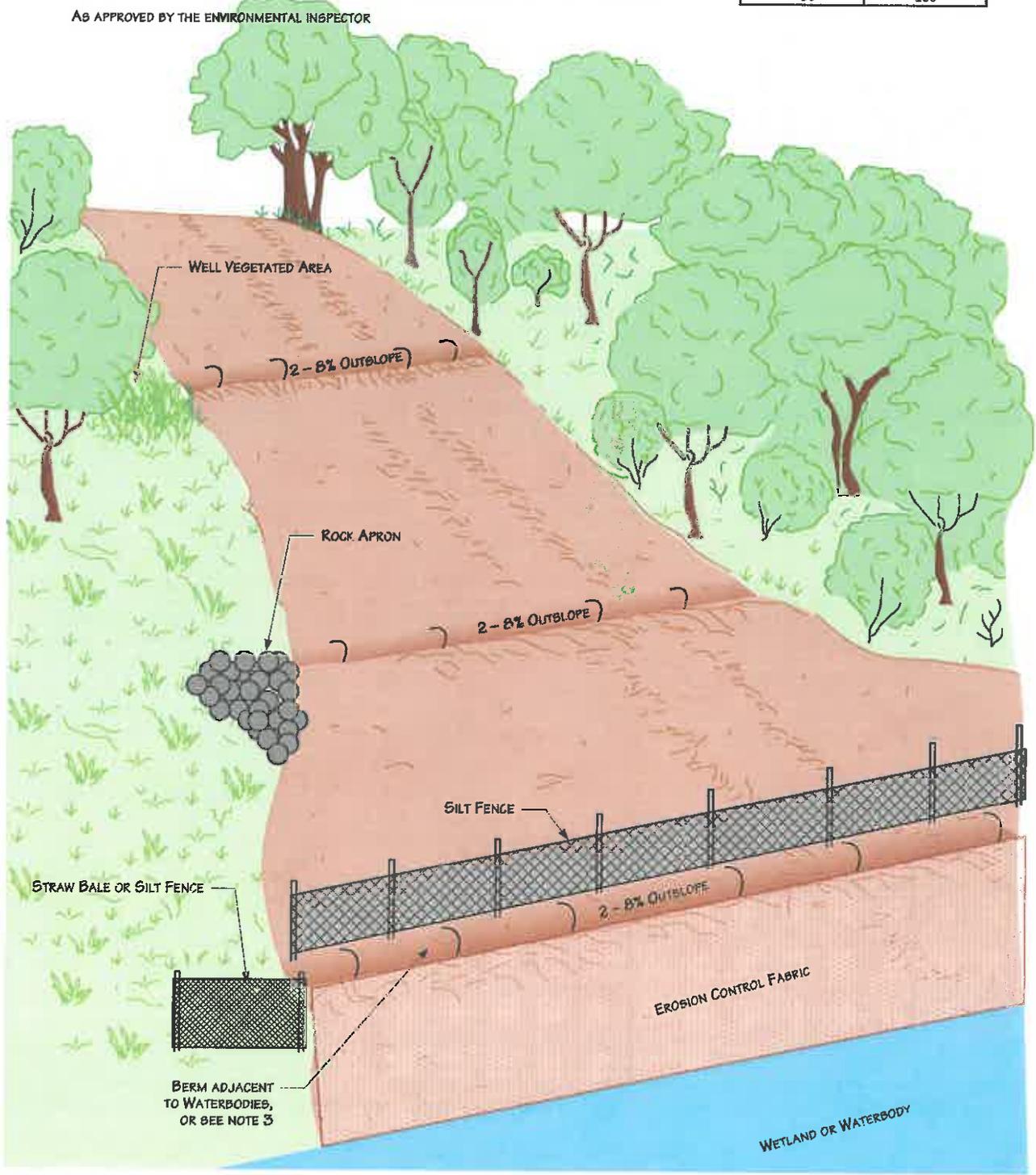


Figure 5
Environmental Mitigation Plan
 Typical Temporary Berms
 Perspective View

DATE: 3/18/2015

REVISED: 4/14/2015

SCALE: NTS

DRAWN BY: JPBOENTJE

K1 CLIENT PROJECTS/D-REELBAR/2015/04/REVISED TYPICALS/FIG_05_TEMP_BERMS_PERSVIEW.VSD



NOTES:

1. BERMS ARE PERMANENT.
2. STRAW BALES OR SILT FENCE SHALL BE REMOVED AFTER VEGETATION IS ESTABLISHED.
3. LOWEST BERM MAY BE OMITTED IF SILT FENCE OR STRAW BALES ARE INSTALLED AT THAT LOCATION. AS APPROVED BY THE ENVIRONMENTAL INSPECTOR.
4. INSTALL SILT FENCE OR STRAW BALES AT DISCHARGE END OF EARTHEN BERMS AS NECESSARY TO DISSIPATE ENERGY AND PREVENT EROSION.

Typical Spacing for Form Waterbars	
Slope	Spacing (ft)
3-5	250
5-15	200
15-25	150
>25	<100

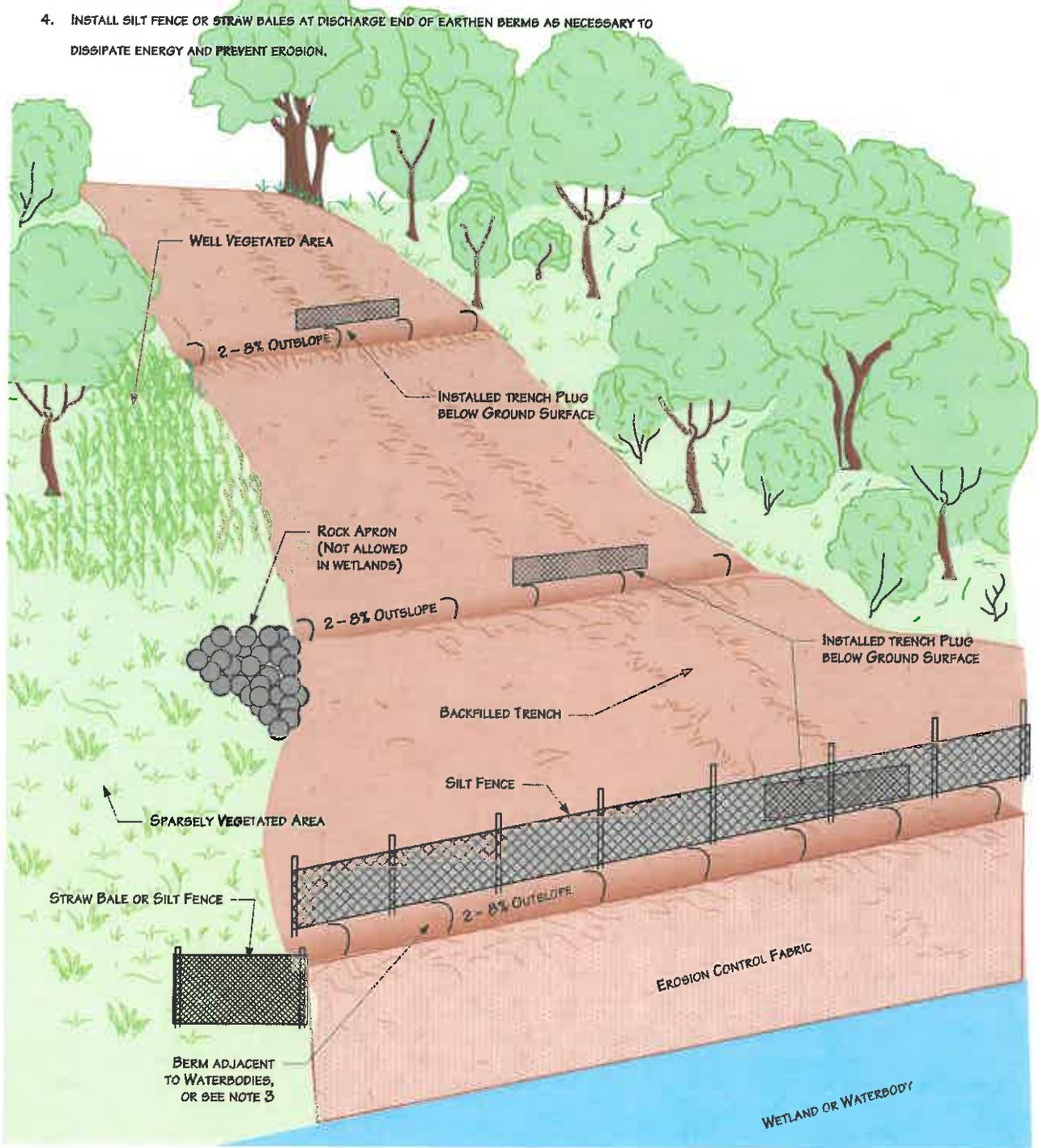


Figure 6
Environmental Mitigation Plan
 Typical Permanent Berms
 Perspective View

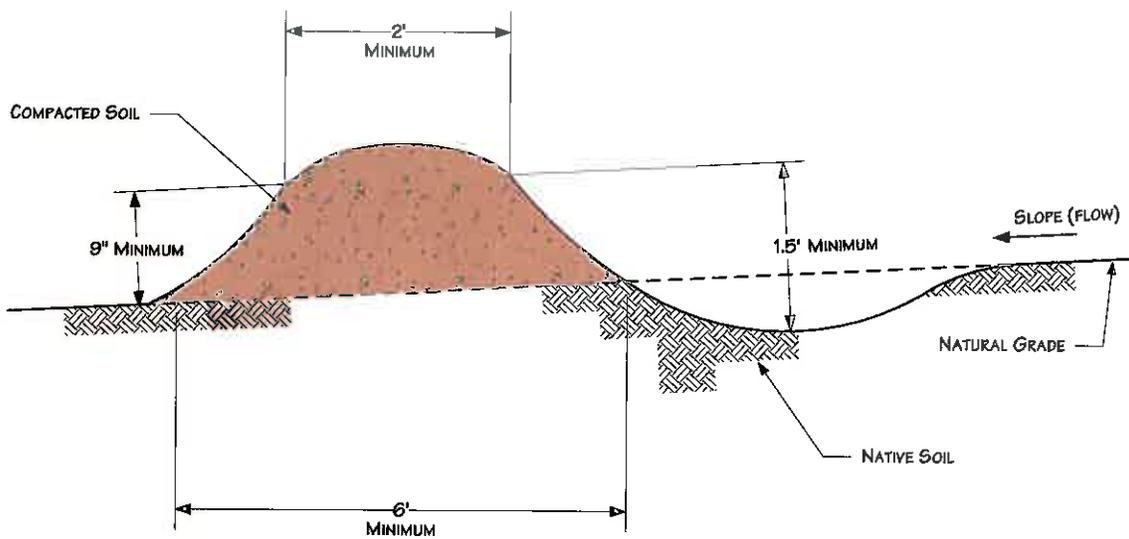
DATE: 3/18/2015

REVISED: 4/14/2015

SCALE: NTS

DRAWN BY: JPBOENTJE

K1 CLIENT PROJECTS\0-AEELIBARR
 2015\04\REVISED TYPICALS\1
 FIG_06_PERM_BERMS_PERSVIEW.VSD



NOTES

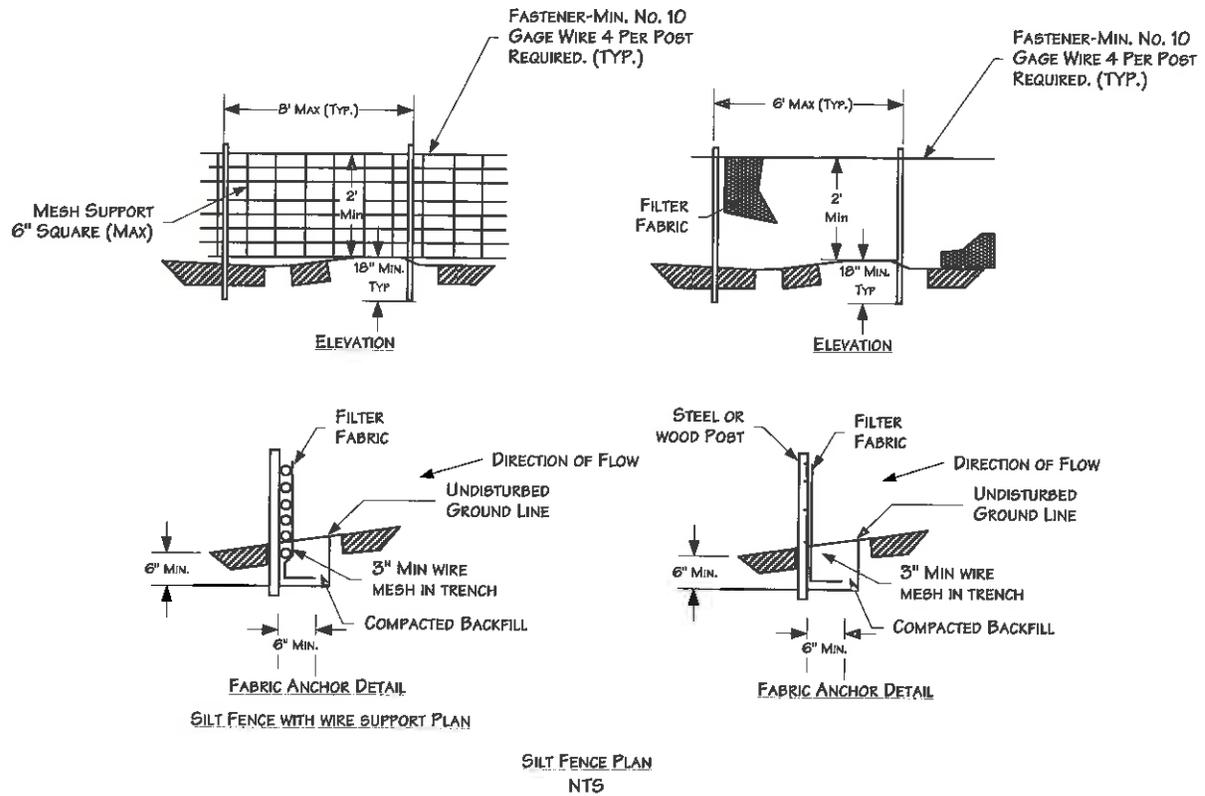
1. BERMS SHALL BE CONSTRUCTED WITH 2 TO 4 PERCENT OUTSLOPE.
2. BERMS SHALL BE OUTLETED TO WELL VEGETATED STABLE AREAS, SILT FENCES, STRAW BALES OR ROCK APRONS.
3. BERMS SHALL BE SPACED AS DESCRIBED IN CONSTRUCTION SPECIFICATIONS.
4. ADDITIONAL INFORMATION INCLUDED ON OTHER DRAWINGS.
5. DIMENSIONS ARE GUIDELINES AND MAY BE MODIFIED SUBJECT TO FIELD CONDITIONS.

For environmental review purposes only.



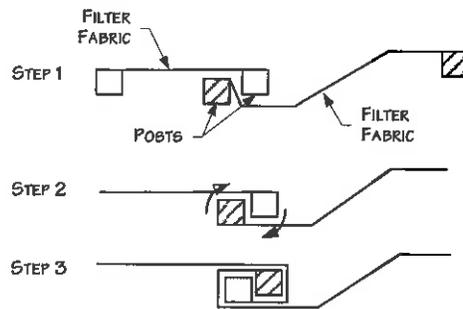
Figure 7
Environmental Protection Plan
 Typical Temporary or Permanent Berms
 Cross Section View

DATE: 5/25/2001
REVISED: 4/10/2015
SCALE: NTS
DRAWN BY: KMKENDALL
K3 CLIENT PROJECTS/D-PEEL/BARR 201504/REVISED TYPICALS/ FIG_07_TEMPPerm_BERMS_XSVIEW.VSD



NOTES:

1. WIRES OF MESH SUPPORT SHALL BE MIN. GAGE NO. 12.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF THE SPECIFICATION WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN. (SIEVE NO.)
3. THE POSTS USED TO SUPPORT THE SILT FENCE SHOULD BE HARDWOOD MATERIAL WITH A MINIMUM CROSS SECTIONAL AREA OF 4 INCHES SQUARE AND 4 FEET LONG. METAL POSTS SHOULD BE USED IN AREAS THAT POND WATER.



ATTACHING TWO SILT FENCES

NOTES:

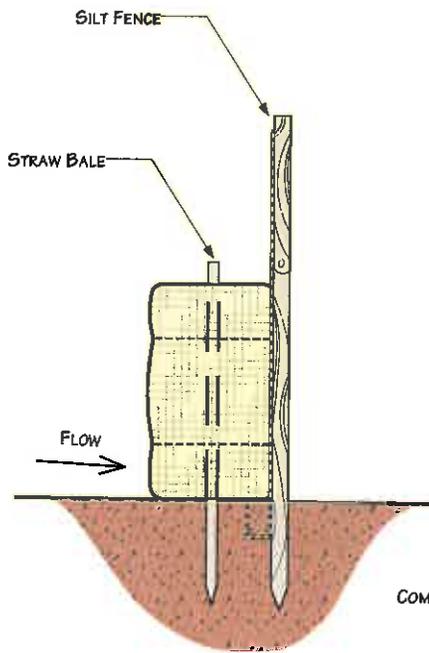
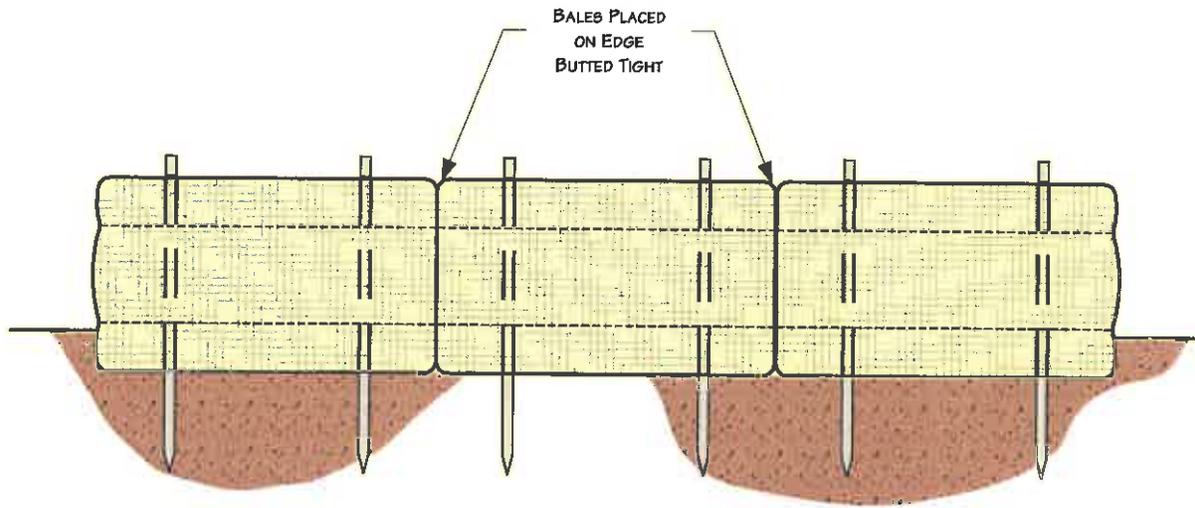
1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES IN THE GROUND AND BURY THE FLAP.

For environmental review purposes only.

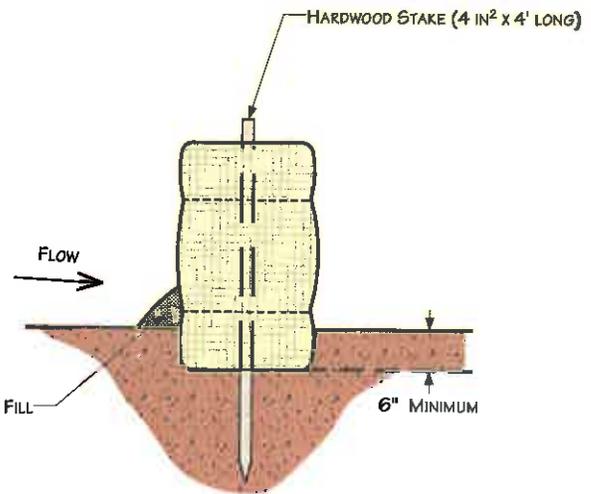


Figure 8
Environmental Mitigation Plan
Typical Silt Fence Installation

DATE: 5/25/2001	
REVISED: 4/10/2015	
SCALE: NTS	
DRAWN BY: KMKENDALL	
K1 CLIENT PROJECTS\SD-FEELIBARRI 2015\04\REVISED TYPICALS FIG_08_SILT_FENCE_INSTALL.VSD	



STRAW BALES & SILT FENCE



STRAW BALES ONLY

For environmental review purposes only.



Figure 9
Environmental Mitigation Plan
 Typical Straw Bale Installation

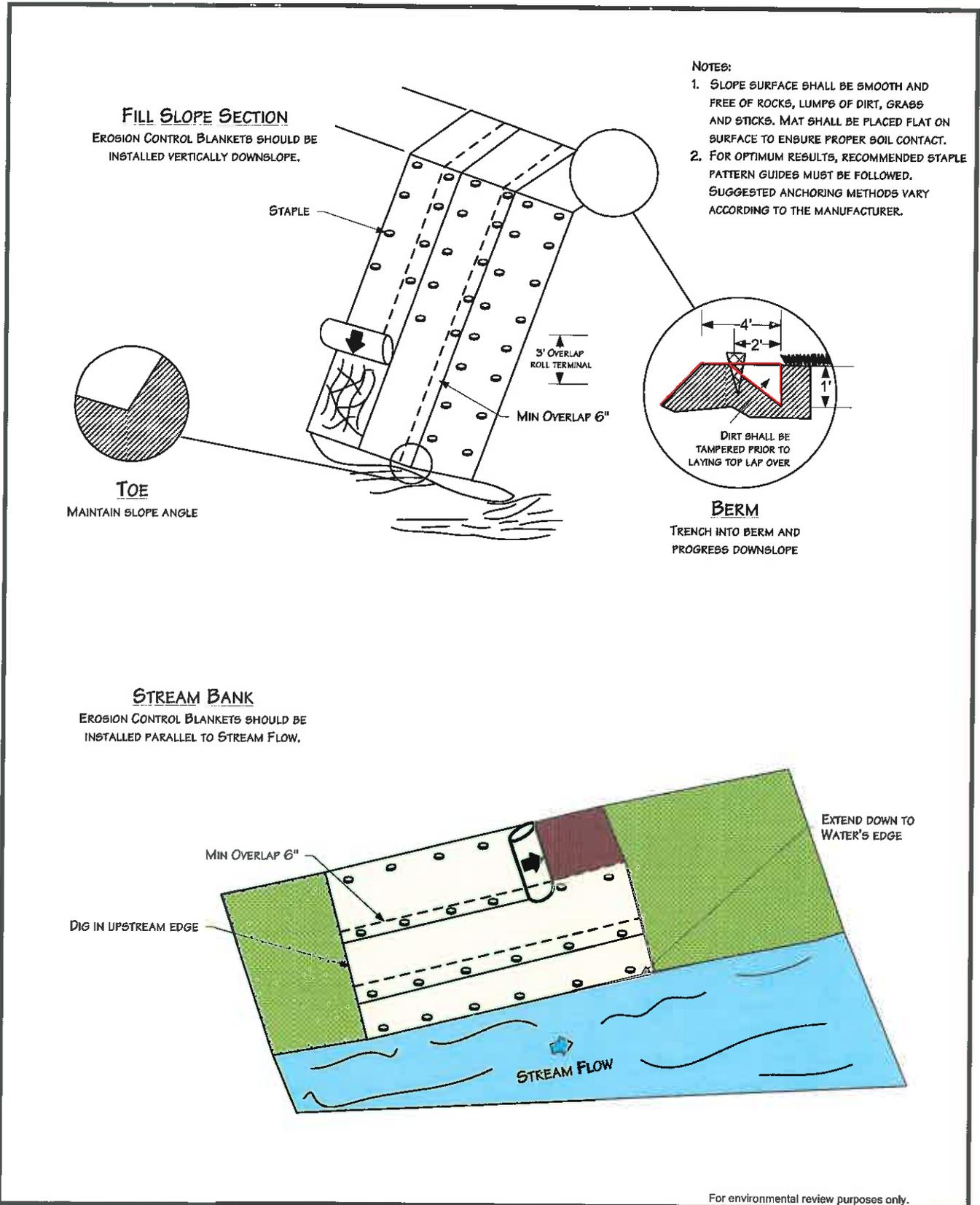
DATE: 5/25/2001

REVISED: 4/10/2015

SCALE: NTS

DRAWN BY: KMKENDALL

K3 CLIENT PROJECTS/D-PEELBARRA
 201504/REVISED TYPICALS
 FIG 09 STRAW BALE INSTALL.VSD

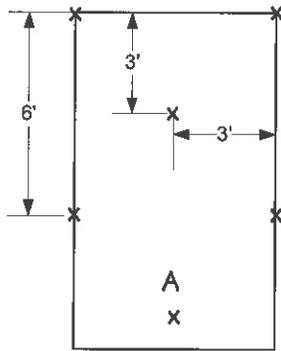


For environmental review purposes only.

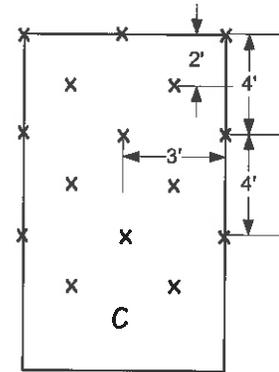


Figure 10
Environmental Mitigation Plan
Typical Erosion Control Blanket Installation

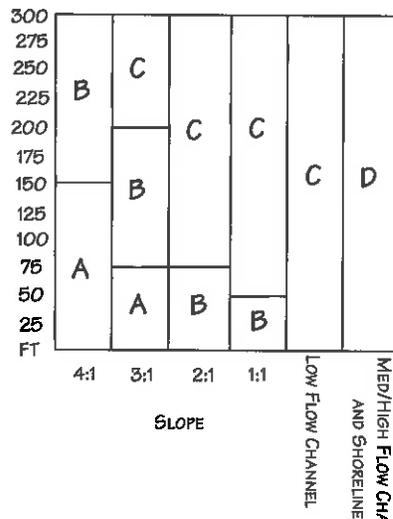
DATE: 5/25/2001
 REVISED: 4/14/2015
 SCALE: NTS
 DRAWN BY: KMKENDALL
 CLIENT: PROJECTS/ENR/ENR/ENR
 2018/04/REVISED TYPICALS/
 FIG_10_EROSION_CONTROL_BLANKET_IN
 STALL.VSD



1 STAPLE PER SQ. YD

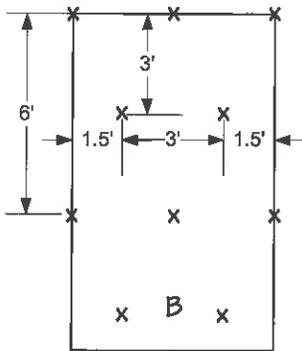


2 STAPLES PER SQ. YD

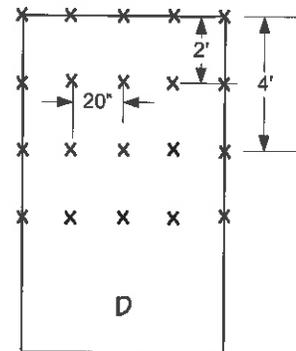


LENGTH OF SLOPE

SLOPE



1 1/2 STAPLES PER SQ. YD



3 1/2 STAPLES PER SQ. YD

FOR OPTIMUM RESULTS, THESE RECOMMENDED STAPLE PATTERN GUIDES MUST BE FOLLOWED. SUGGESTED ANCHORING METHODS VARY ACCORDING TO THE MANUFACTURER. THIS CHART SHOWS HOW TO SLOPE LENGTHS AND HOW GRADIENTS AFFECT SAMPLING PATTERNS.

For environmental review purposes only.



Figure 11 Environmental Mitigation Plan Typical Staple Pattern for Erosion Control Fabric

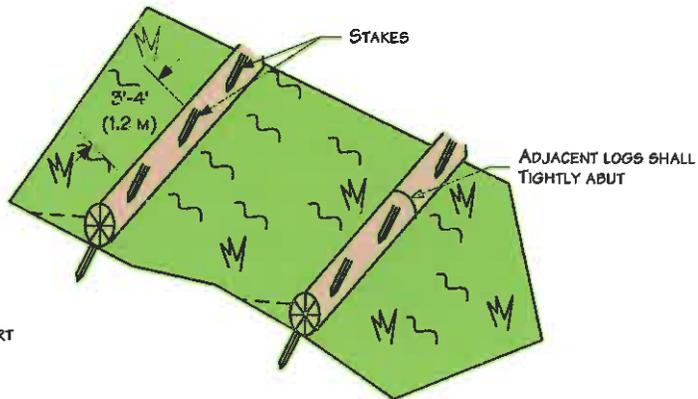
DATE: 5/25/2001

REVISED: 4/10/2015

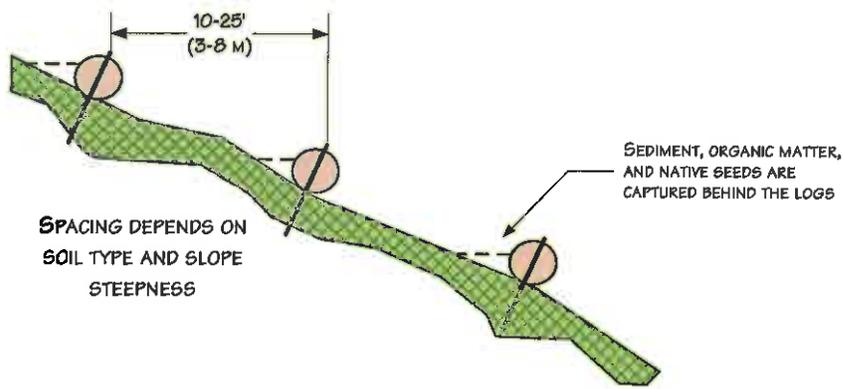
SCALE: NTS

DRAWN BY: KMKENDALL
K:\CLIENT PROJECTS\EROSION CONTROL
201504\REVISED_TYPICALS\FIG_11_STAPLE_PATTERN_EROSION_CO
NTROL_FABRIC.VSD

BIOLOGS SHOULD BE PLACED AND STAKED SECURELY ALONG SLOPE CONTOURS PER MANUFACTURER'S SPECIFICATION. STAKES SHOULD BE PLACED 3' TO 4' APART



RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND THE LOG.

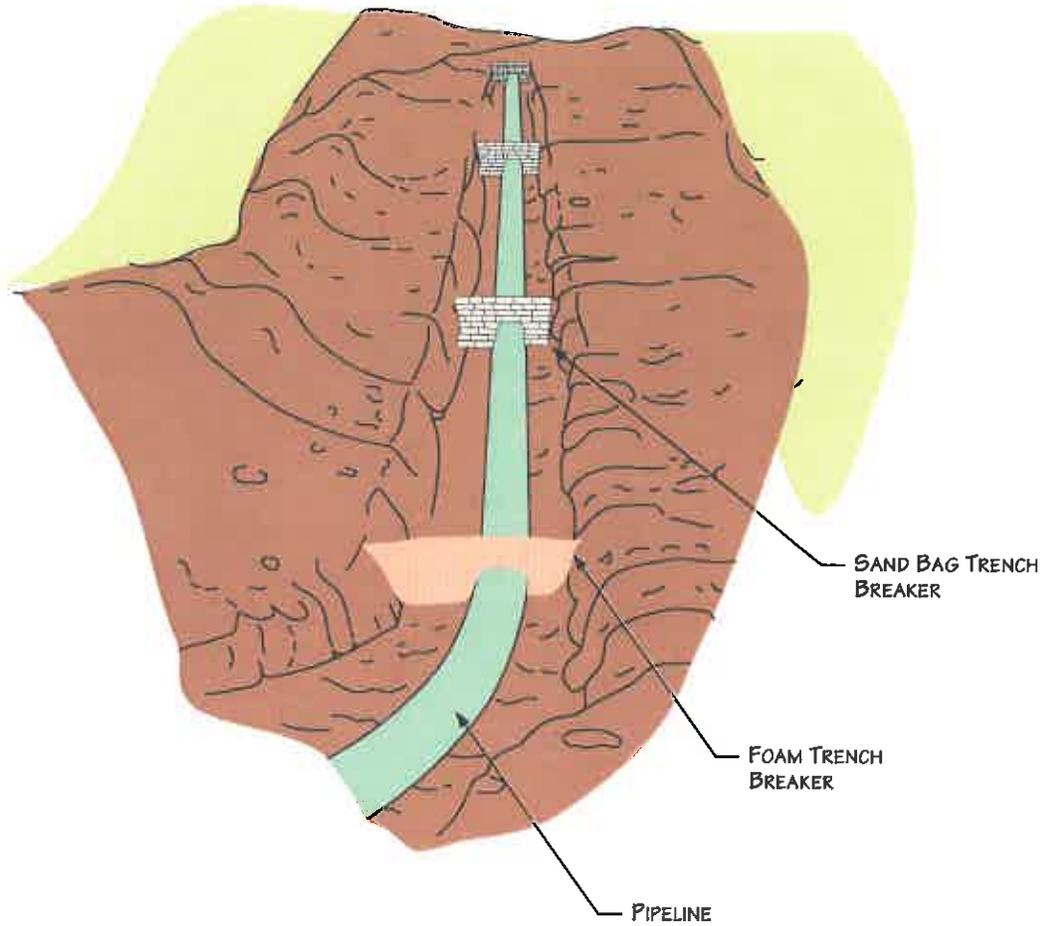


For environmental review purposes only.



Figure 12
Environmental Mitigation Plan
 Typical Biolog Installation

DATE: 5/25/2001
REVISED: 4/13/2015
SCALE: NTS
DRAWN BY: KMKENDALL
K:\CLIENT PROJECTS\SD-FEELBARR\2015\04\REVISED TYPICALS\FIG_12_BIOLOG INSTALL.VSD



NOTES

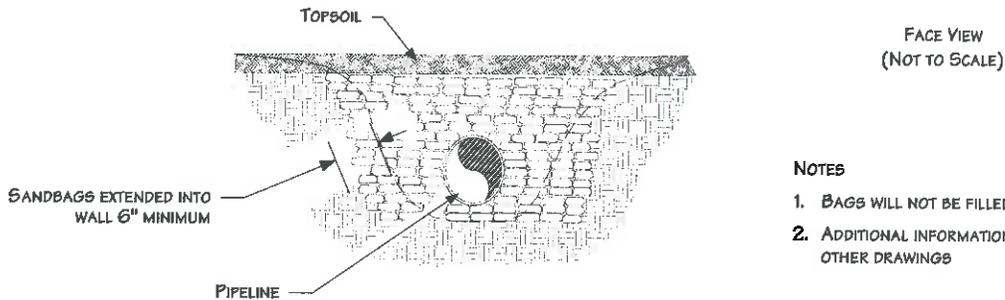
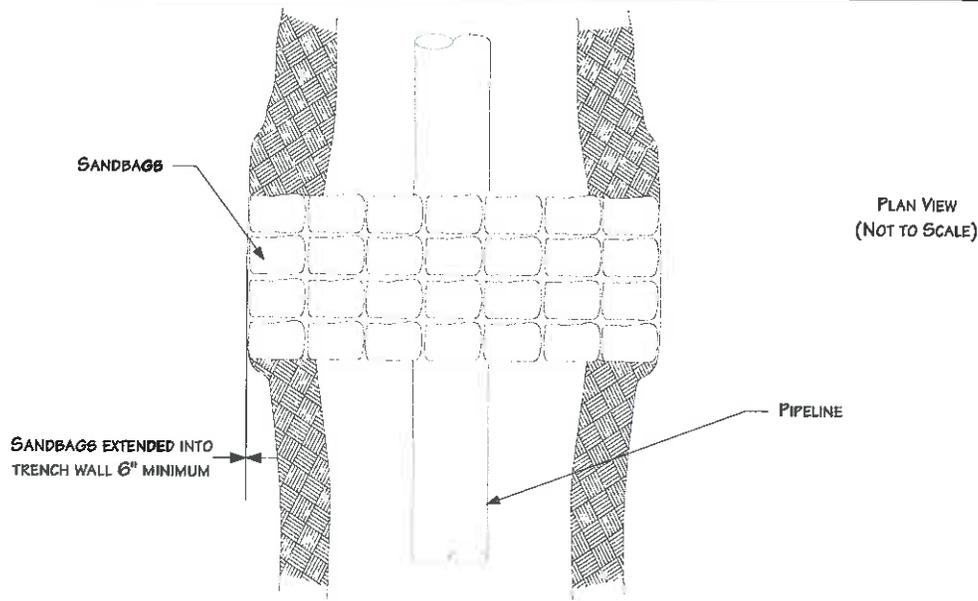
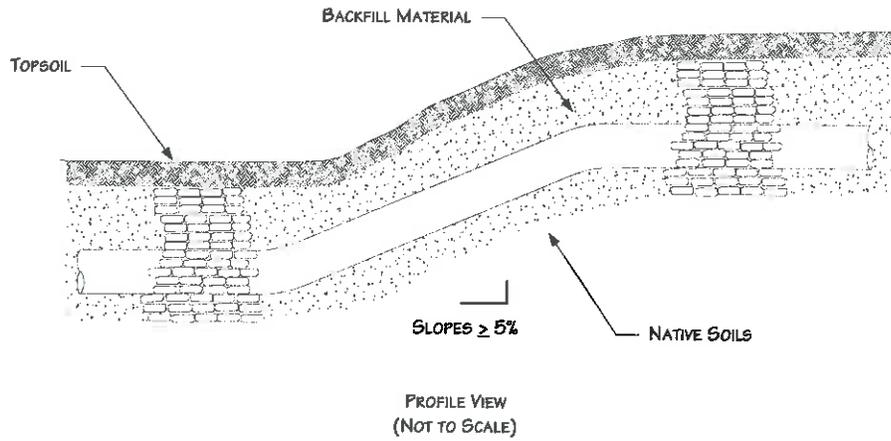
1. BAGS WILL NOT BE FILLED WITH TOPSOIL.
2. ADDITIONAL INFORMATION INCLUDED ON OTHER DRAWINGS.

For environmental review purposes only.



Figure 14
Environmental Mitigation Plan
 Typical Trench Breakers - Perspective View

DATE: 5/25/2001
 REVISED: 4/10/2015
 SCALE: NTS
 DRAWN BY: KMKENDALL
 K.V. CLIENT PROJECTS/D/FILED/ISSUE
 201504/REVISED TYPICALS/
 FIG_14_TRENCH_BREAKER_PERSVIEW.
 VSD



NOTES

1. BAGS WILL NOT BE FILLED WITH TOPSOIL
2. ADDITIONAL INFORMATION INCLUDED ON OTHER DRAWINGS

For environmental review purposes only.



Figure 15
Environmental Mitigation Plan
Typical Trench Breakers – Plan & Profile View

DATE: 11/15/2000

REVISED: 4/10/2015

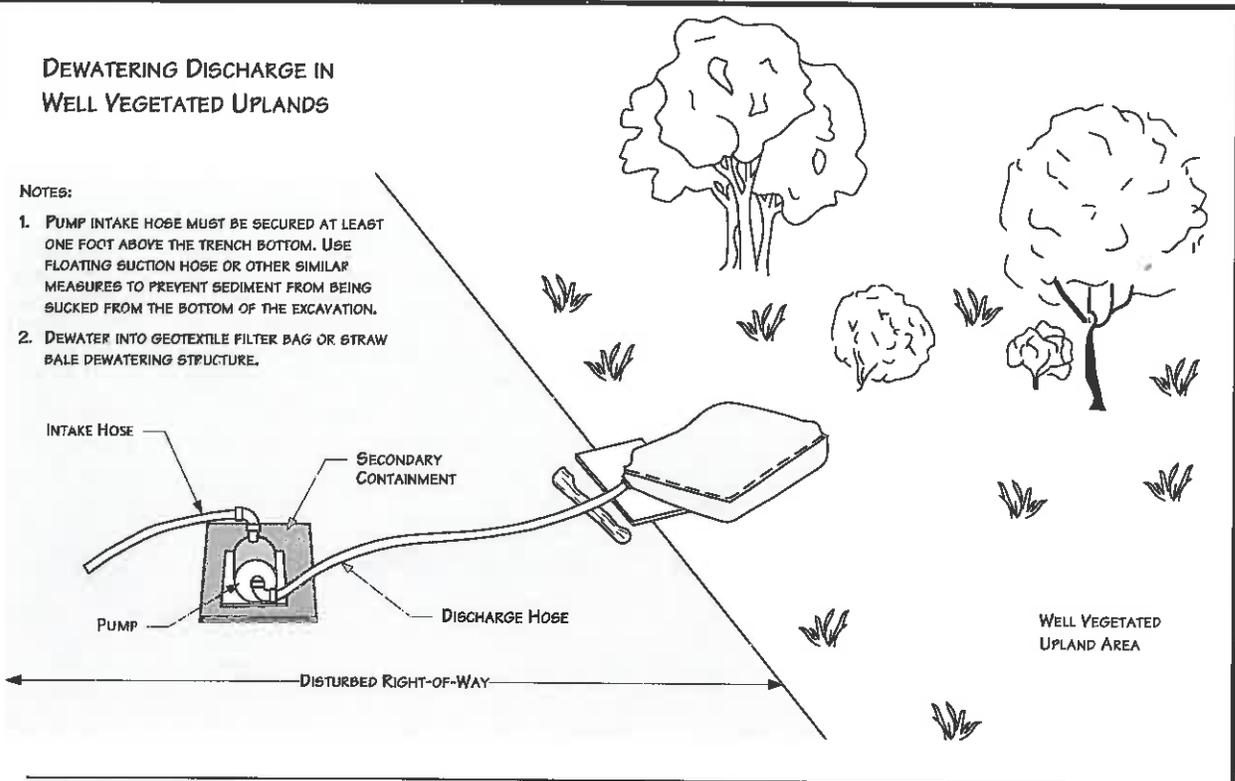
SCALE: NTS

DRAWN BY: KMKENDALL
K.C. CLIENT PROJECTS/ENBRIDGE
201504/REVISED TYPICALS
FIG 15 TRENCH_BREAKER_PLANPROFVI
EW.VSD

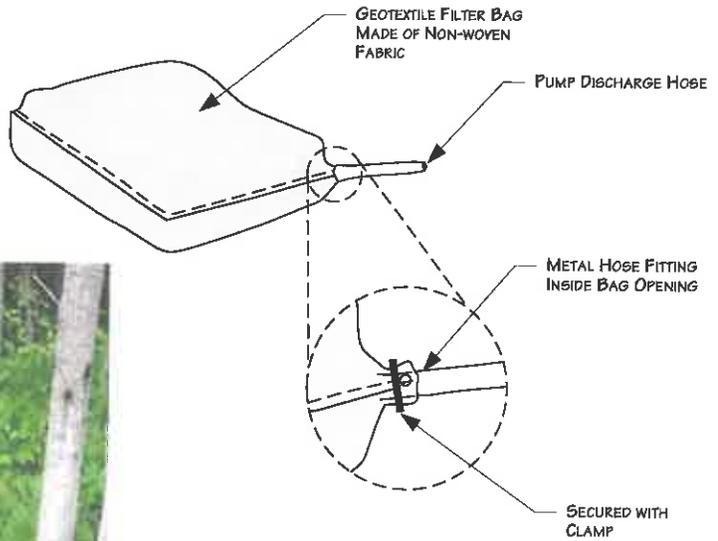
DEWATERING DISCHARGE IN WELL VEGETATED UPLANDS

NOTES:

1. PUMP INTAKE HOSE MUST BE SECURED AT LEAST ONE FOOT ABOVE THE TRENCH BOTTOM. USE FLOATING SUCTION HOSE OR OTHER SIMILAR MEASURES TO PREVENT SEDIMENT FROM BEING SUCKED FROM THE BOTTOM OF THE EXCAVATION.
2. DEWATER INTO GEOTEXTILE FILTER BAG OR STRAW BALE DEWATERING STRUCTURE.



GEOTEXTILE FILTER BAG



For environmental review purposes only.



Figure 23
Environmental Mitigation Plan
Typical Dewatering Measures

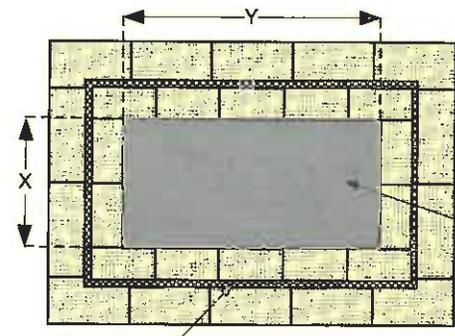
DATE: 5/25/2001

REVISED: 4/10/2015

SCALE: NTS

DRAWN BY: KMKENDALL

CLIENT: PROJECTS/FIELD/BARRI
201504/REVISED TYPICALS/
FIG_23_DEWATERING_MEASURES.VSD

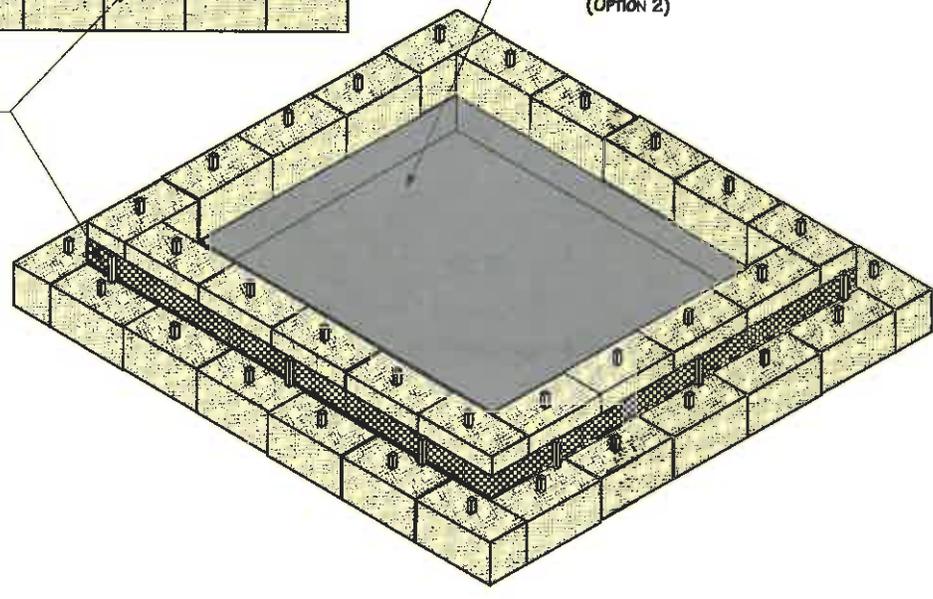


NOTES:

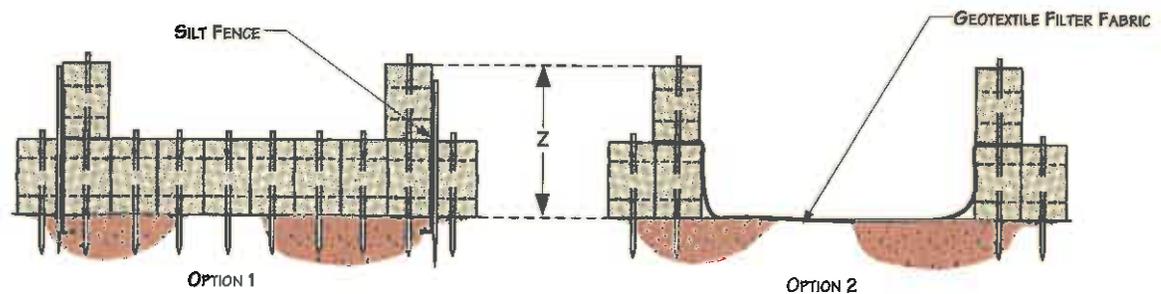
1. ARRANGE THE STRAW BALES TO THE X AND Y DIMENSIONS NECESSARY TO OBTAIN THE REQUIRED STORAGE CAPACITY.
2. SILT FENCE ENDS MUST BE WRAPPED TO JOIN TWO SECTIONS.
3. INSTALL SILT FENCE 2 INCHES ABOVE TOP OF STRAW BALES, AND ANCHOR A MINIMUM OF 8 INCHES STRAIGHT DOWN
4. SILT FENCE POST STAKING MUST BE 4 FEET OR LESS

SILT FENCE
(OPTION 1)

GEOTEXTILE FILTER FABRIC
(OPTION 2)



PERSPECTIVE VIEW



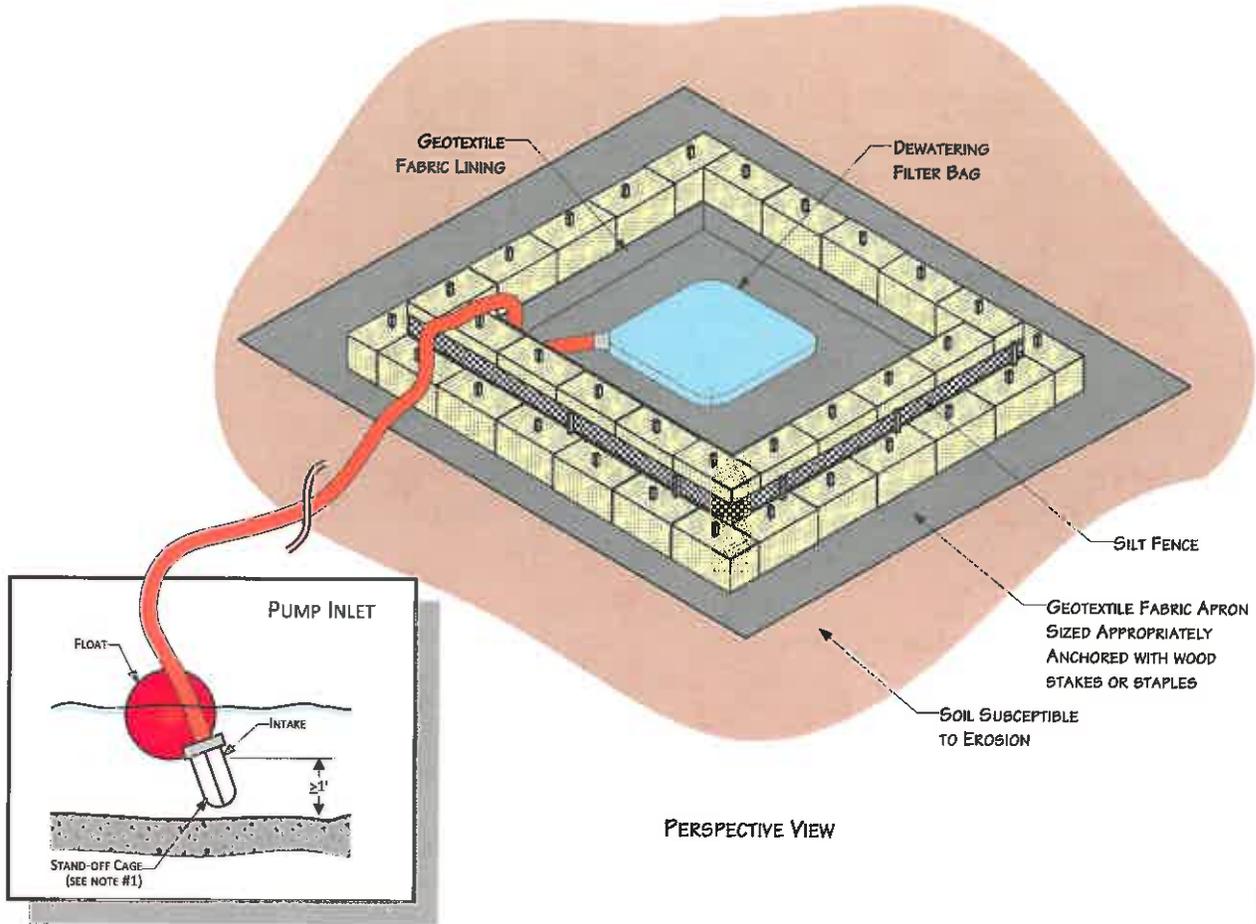
MINIMUM STRUCTURE CAPACITY $X*Y*Z =$ (CUBIC FEET)	MAXIMUM PUMPING RATE (GALLONS PER MINUTE)
1600	100
2400	150
3200	200
4000	250
4800	300
5600	350
6400	400

For environmental review purposes only.



Figure 24
Environmental Mitigation Plan
Straw Bale Dewatering Structure

DATE: 5/25/2001
 REVISED: 4/14/2015
 SCALE: NTS
 DRAWN BY: KMKENDALL
 K1 CLIENT PROJECTS/DATE/NUMBER
 2015/04/REVISED TYPICALS/
 FIG 24 STRAW_BALE_DEWATERING_STR
 UCTURE.VSD



* SEE FIGURE 24 FOR EXAMPLE OF OPTION 1 AND OPTION 2 DESIGNS.

NOTES:

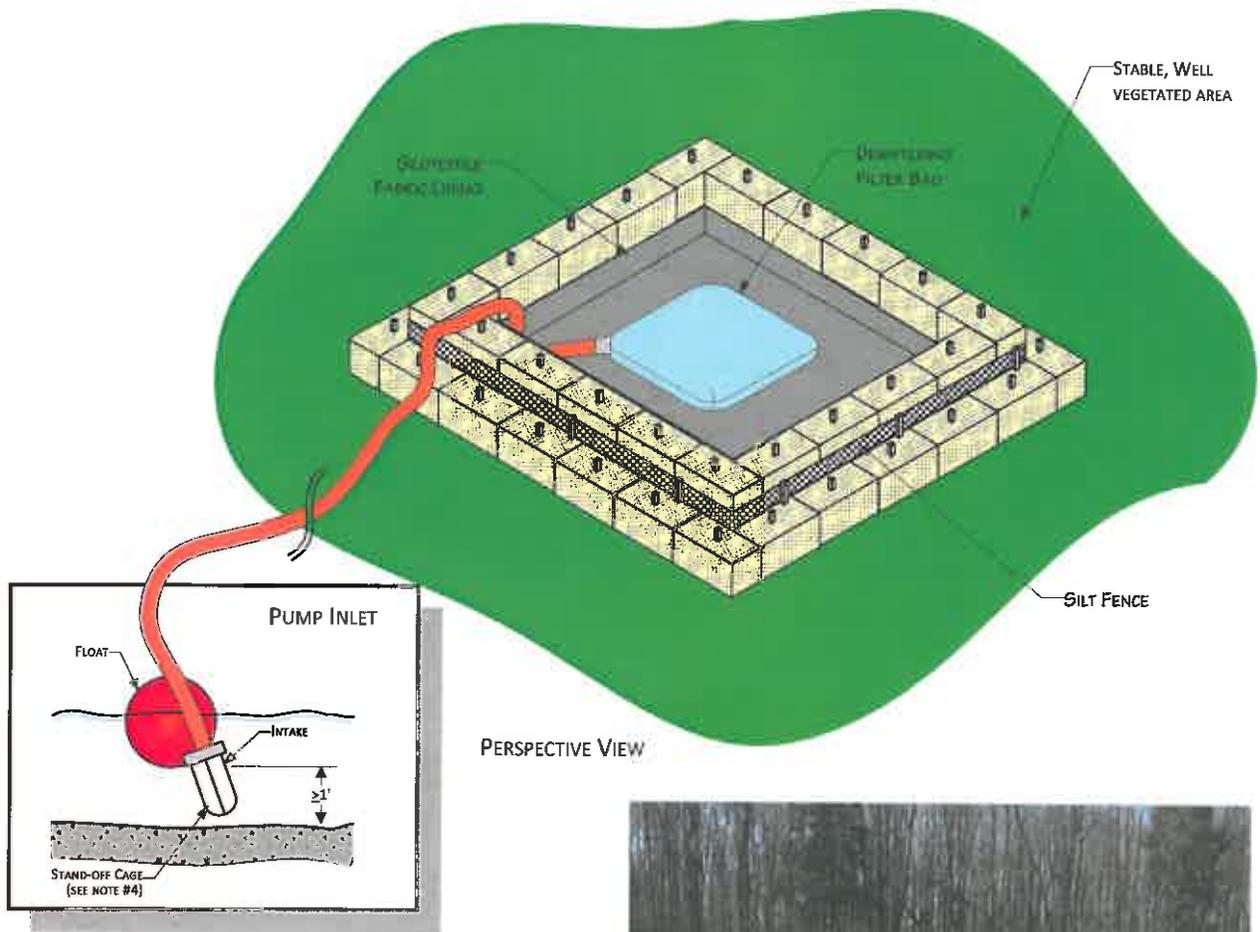
1. DEWATERING INTAKE HOSE SUPPORTED AT LEAST 1 FOOT FROM BOTTOM OF TRENCH BEING DEWATERED. USE FLOATING SUCTION HOSE OR OTHER SIMILAR MEASURES TO PREVENT SEDIMENT FROM BEING SUCKED FROM BOTTOM OF THE EXCAVATION.
2. USE A FILTER BAG AT THE DISCHARGE HOSE END.
3. MONITOR FILTER BAG AND REPLACE AS NEEDED.
4. CONSTRUCT DEWATERING STRUCTURE TO ACCOMMODATE ANTICIPATED PUMPING RATES.
5. ONE-BALE HEIGHT MAY BE USED WHEN ADEQUATE AREA IS AVAILABLE TO CONSTRUCT APPROPRIATE SIZED STRUCTURE.

For environmental review purposes only.



Figure 25
Environmental Mitigation Plan
Straw Bale Dewatering Structure

DATE: 5/25/2001
REVISED: 4/14/2015
SCALE: NTS
DRAWN BY: KMKENDALL
ENVIRONMENTAL PROJECTS - FLECKHART
201504 (REVISED TYPICALS)
FIG_25 STRAW_BALE_DEWATERING_STRUCTURE.VSD



PERSPECTIVE VIEW



* SEE FIGURE 24 FOR EXAMPLE OF OPTION 1 AND OPTION 2 DESIGNS.

NOTES:

1. DEWATERING INTAKE HOSE SUPPORTED AT LEAST 1 FOOT FROM BOTTOM OF TRENCH BEING DEWATERED. USE FLOATING SUCTION HOSE OR OTHER SIMILAR MEASURES TO PREVENT SEDIMENT FROM BEING SUCKED FROM BOTTOM OF THE EXCAVATION.
2. USE A FILTER BAG AT THE DISCHARGE HOSE END.
3. MONITOR FILTER BAG AND REPLACE AS NEEDED.
4. CONSTRUCT DEWATERING STRUCTURE TO ACCOMMODATE ANTICIPATED PUMPING RATES.
5. ONE-BALE HEIGHT MAY BE USED WHEN ADEQUATE AREA IS AVAILABLE TO CONSTRUCT APPROPRIATE SIZED STRUCTURE.

For environmental review purposes only.



Figure 26
Environmental Mitigation Plan
Straw Bale Dewatering Structure

DATE: 9/24/2009

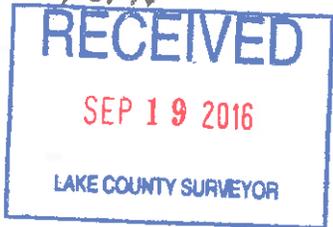
REVISED: 4/14/2015

SCALE: NTS

DRAWN BY: JEBAKKEN

201504 REVISED TYPICALS
 FIG 26 STRAW_BALE_DEWATERING_STRUCTURE.VSD

Handout ~~6-C~~ 9-21-16 C-13 10-13-16



LAKE COUNTY DRAINAGE BOARD

RE: The Obstruction of Private Drainage

Comes now Paul + Christine Gesiakowski, who petitions the Lake County Drainage Board, per IC 36-9-27.4, for removal of drainage obstruction(s). Petitioner, in support of the petition, advised the Board that:

1. Petitioner is the owner of tract Lot 4 in JAMAR Estates per the records of the Lake County Auditor and that said tract is upstream of a drainage obstruction within a private tile drain or a defined natural surface water channel, causing an adverse effect on petitioners tract.
2. An obstruction to drainage exists on the downstream tract owned by See attached sheet which is listed on the Auditors Records as tract number See attached sheet and whose address is shown as see attached sheet. Said obstruction is caused by see attached and is located see attached.
3. The petitioner has requested in writing & sent return receipt requested to the above named downstream owner, to remove the obstruction and at this time the obstruction has not been removed. In support of this there is attached a copy of the letter requesting the removal of the obstruction with the original return receipt. It has been thirty (30) or more days since the receipt of the letter by the above downstream owner.
4. Petitioner has submitted a copy of the Auditors Tax Map showing location of drain; location of obstruction; drainage shed of drain; and size of drain if tiled.
5. Petitioner has submitted a list of owners within the drainage shed of the private tile or natural stream showing names of owners; owners address; parcel number; and acres in tract. All of this information is per the Auditors Record. Also included is the estimated acres benefited by the drain for each tract listed.
6. Petitioner believes that the obstruction was: (Mark One)
 Caused intentionally by the downstream owner.
 Not caused intentionally by the downstream owner.

Paul Gesiakowski
Signed

Paul Gesiakowski
Printed

(219) 689-6831 (219) 801-6648
Phone Number(s)

Christine Gesiakowski
Signed

Christine Gesiakowski
Printed

10353 Cline Avenue
Address
Crown Point

Lake County Drainage Board Petition

#2

James, Andrew

Parcel # 45-15-02-100-007.000-041

7411 W. 101st Avenue Crown Point IN 46307

Guritz, James O. + Patricia J.

Parcel # 45-11-35-352-006.000-032

7715 W. 101st Avenue Crown Point IN 46307

Walter, Christine A.

Parcel # 45-11-35-352-007.000-032

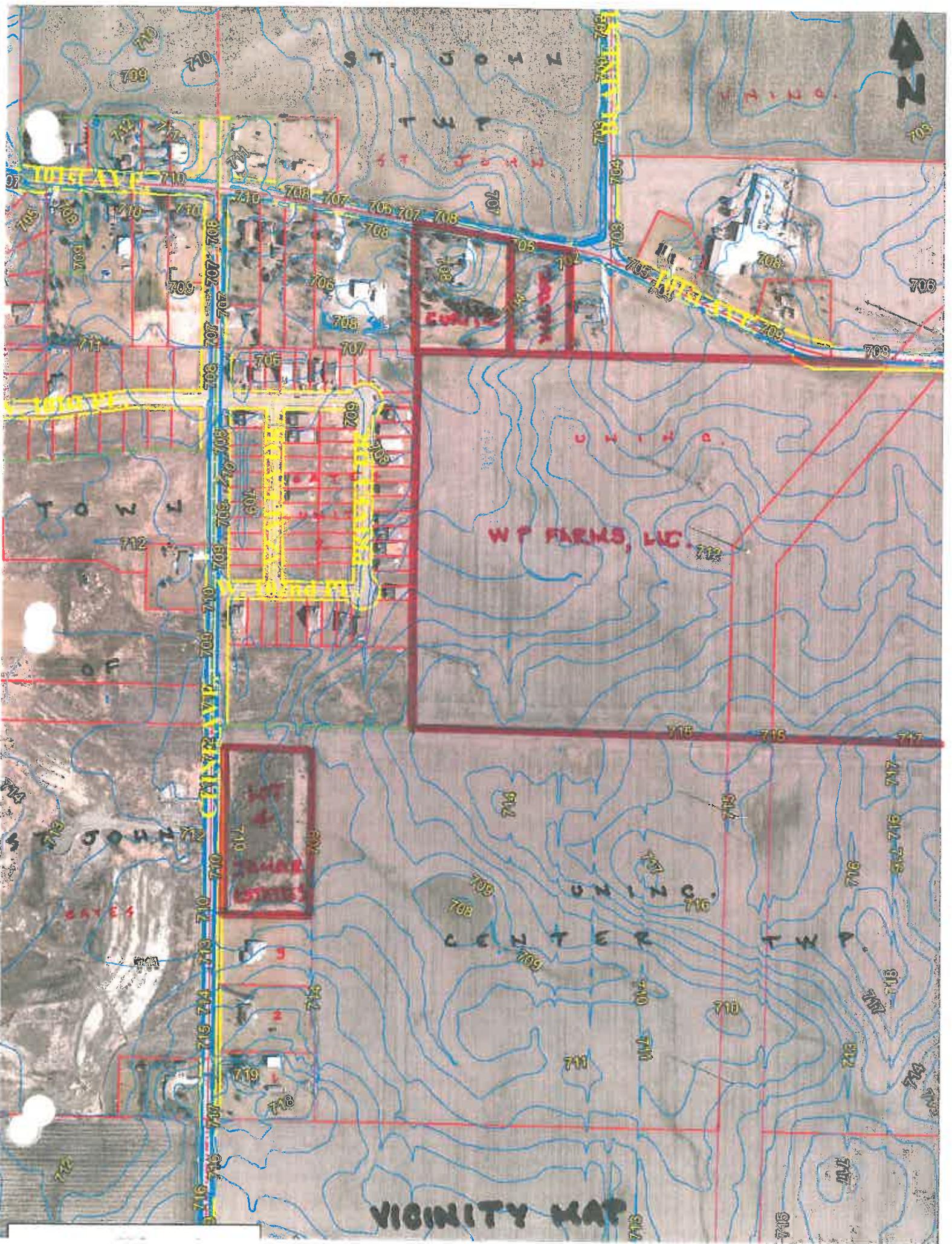
7635 W. 101st Avenue Crown Point IN 46307

Paul + Christine Gesiakowski

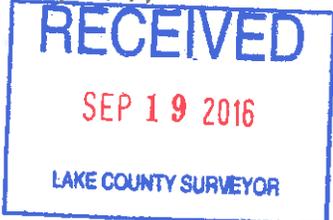
Lot 4 JAMAR Estates

10353 Cline Avenue Crown Point IN 46307

(219) 689-6831 + (219) 801-6648



Handout 6-C
9-21-16



LAKE COUNTY DRAINAGE BOARD

RE: The Obstruction of Private Drainage

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1. Petitioner is the owner of tract Lot 4 in JAMAR Estates per the records of the Lake County Auditor and that said tract is upstream of a drainage obstruction within a private tile drain or a defined natural surface water channel, causing an adverse effect on petitioners tract.
2. An obstruction to drainage exists on the downstream tract owned by See attached sheet which is listed on the Auditors Records as tract number see attached sheet and whose address is shown as see attached sheet. Said obstruction is caused by see attached and is located see attached
3. The petitioner has requested in writing & sent return receipt requested to the above named downstream owner, to remove the obstruction and at this time the obstruction has not been removed. In support of this there is attached a copy of the letter requesting the removal of the obstruction with the original return receipt. It has been thirty (30) or more days since the receipt of the letter by the above downstream owner.
4. Petitioner has submitted a copy of the Auditors Tax Map showing location of drain; location of obstruction; drainage shed of drain; and size of drain if tiled.
5. Petitioner has submitted a list of owners within the drainage shed of the private tile or natural stream showing names of owners; owners address; parcel number; and acres in tract. All of this information is per the Auditors Record. Also included is the estimated acres benefited by the drain for each tract listed.
6. Petitioner believes that the obstruction was: (Mark One)
 Caused intentionally by the downstream owner.
 Not caused intentionally by the downstream owner.

Paul Gesiakowski
Signed

Christine Gesiakowski
Signed

Paul Gesiakowski
Printed

Christine Gesiakowski
Printed

(219) 689-6831 (219) 801-6648
Phone Number(s)

10353 Cline Avenue
Address
Crown Point

Lake County Drainage Board Petition

#2

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7411 W. 101st Avenue Crown Point IN 46307

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Parcel # 45-11-35-352-006.000-032

7715 W. 101st Avenue Crown Point IN 46307

Walter, Christine A.

Parcel # 45-11-35-352-007.000-032

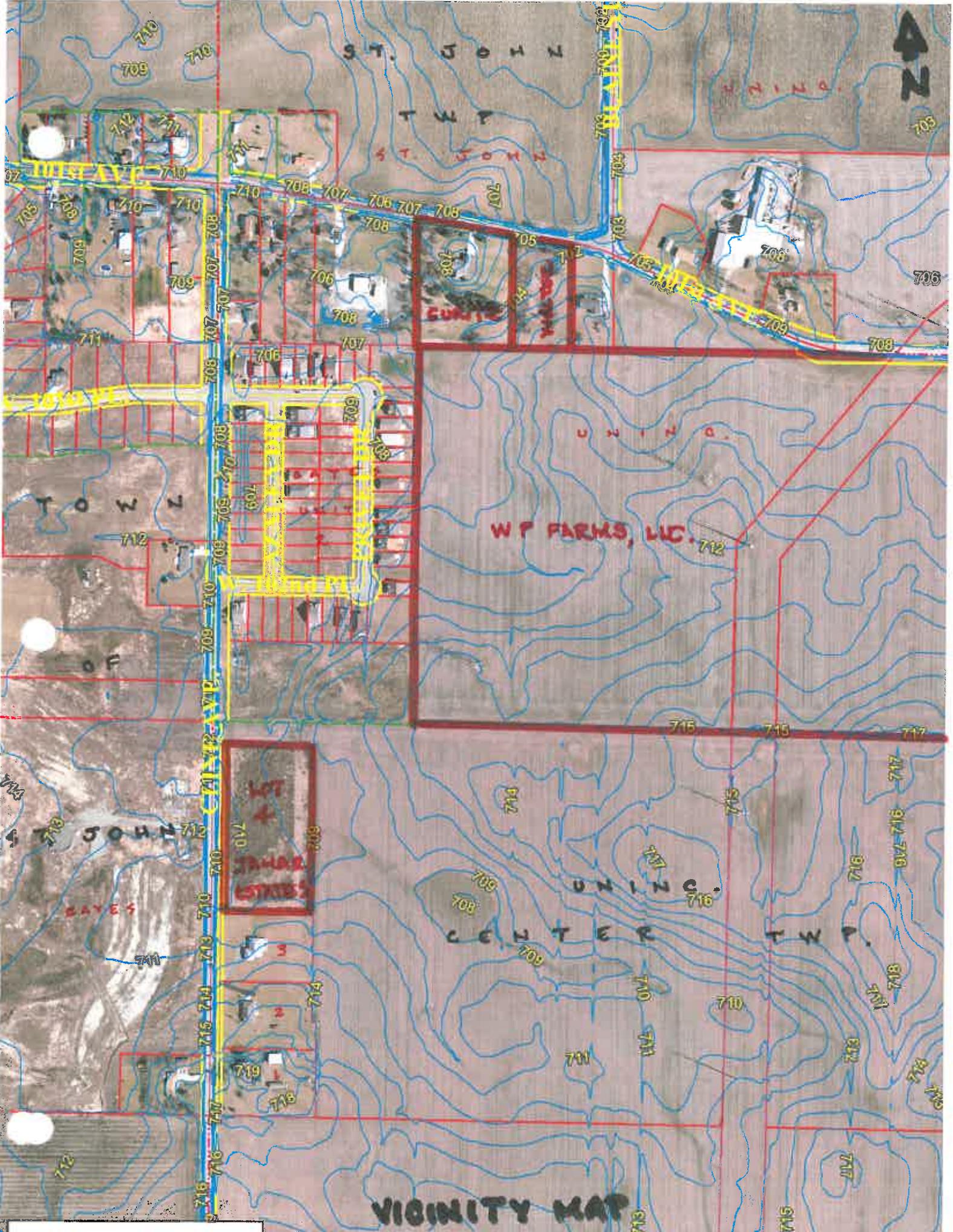
7635 W. 101st Avenue Crown Point IN 46307

Paul + Christine Gesiakowski

Lot 4 JAMAR Estates

10353 Cline Avenue Crown Point IN 46307

(219) 689-6831 + (219) 801-6648



VICINITY MAP

Dear Christine Walter:

July 7th, 2016

222 Ernest Street

Griffith, In 46319

This letter to you is to inform you of an attempt to reduce the risk of ongoing flooding that occurs on our property as the result of drainage flow issues that may exist on your property. We live at 10353 Cline Avenue and in March of 2015 we moved into the home we built there.

We have experienced multiple flooding events since then and have determined that storm water backs up out of the ground drains from north of where we live. The investigation with the Lake County Surveyors Office along with the Town of St. John has determined the natural overland flow through your property has obstructed the overland flow route from the Gates of St. John at the detention pond outfall to the intersection at the southwest corner of 101st Avenue and Blaine Street.

Per the Lake County Private Drain Petition procedure, which comes from the Indiana Drainage Code (I.C. 36-9-27.4), if after 30 days the obstruction or re-establishing the overland flow has not been removed or re-graded, the Lake County Drainage Board will be petitioned by us.

Any questions, please contact the Lake County Surveyors Office at 219.755.3745.

Sincerely,

Paul and Christine Gesiakowski

10353 Cline Avenue

Crown Point, IN 46307

Paul Gesiakowski
Christine Gesiakowski



7015 3010 0002 0662 9097

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT <i>Domestic Mail Only</i>	
For delivery information, visit our website at www.usps.com	
GRIFFITH, IN 46319	
Certified Mail Fee \$ 3.30	0373 12 Postmark Here 07/07/2016
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy) \$ 0.00	
<input type="checkbox"/> Return Receipt (electronic) \$ 0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery \$ 0.00	
<input type="checkbox"/> Adult Signature Required \$ 0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery \$ 0.00	
Postage \$ 0.47	
Total Postage and Fees \$ 3.77	
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Street and Apt. No., or PO Box No.	
City, State, ZIP+4®	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

Dear James and Patricia Guritz:

July 7th, 2016

7715 101st Avenue

Crown Point, IN 46307

This letter to you is to inform you of an attempt to reduce the risk of ongoing flooding that occurs on our property as the result of drainage flow issues that may exist on your property. We live at 10353 Cline Avenue and in March of 2015 we moved into the home we built there.

We have experienced multiple flooding events since then and have determined that storm water backs up out of the ground drains from north of where we live. The investigation with the Lake County Surveyors Office along with the Town of St. John has determined the natural overland flow through your property has obstructed the overland flow route from the Gates of St. John at the detention pond outfall to the intersection at the southwest corner of 101st Avenue and Blaine Street.

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Any questions, please contact the Lake County Surveyors Office at 219.755.3745.

Sincerely,

Paul and Christine Gesiakowski

10353 Cline Avenue

Crown Point, IN 46307

Paul Gesiakowski
Christine Gesiakowski



0116 2990 0000 0106 5101
7015 3010 0002 0662 9110

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\$	\$0.00
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.47
\$	\$0.00
Total Postage and Fees	\$3.77
\$	\$0.00
Sent To	
Street and Apt. No., or PO Box No.	
City, State, ZIP+4®	
PS Form 3800, April 2015, PSN 7530-02-000-9017	See Reverse for Instructions

0373
12
Postmark
Here
07/07/2016

Dear W.P. Farms LLC:

July 7th, 2016

8051 Wicker Avenue Ste. A

St. John, IN 46373

This letter to you is to inform you of an attempt to reduce the risk of ongoing flooding that occurs on our property as the result of drainage flow issues that may exist on your property. We live at 10353 Cline Avenue and in March of 2015 we moved into the home we built there.

We have experienced multiple flooding events since then and have determined that storm water backs up out of the ground drains from north of where we live. The investigation with the Lake County Surveyors Office along with the Town of St. John has determined the natural overland flow through your property has obstructed the overland flow route from the Gates of St. John at the detention pond outfall to the intersection at the southwest corner of 101st Avenue and Blaine Street.

Per the Lake County Private Drain Petition procedure, which comes from the Indiana Drainage Code (I.C. 36-9-27.4), if after 30 days the obstruction or re-establishing the overland flow has not been removed or re-graded, the Lake County Drainage Board will be petitioned by us.

Any questions, please contact the Lake County Surveyors Office at 219.755.3745.

Sincerely,

Paul and Christine Gesiakowski

10353 Cline Avenue

Crown Point, IN 46307



RECEIVED

JUL 13 2016

LAKE COUNTY SURVEYOR

7015 3010 0002 0662 9103

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SAINT JOHN, IN 46373

Certified Mail Fee	\$3.30
\$	
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$ 0.00
<input type="checkbox"/> Return Receipt (electronic)	\$ 0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$ 0.00
<input type="checkbox"/> Adult Signature Required	\$ 0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$ 0.00
Postage	\$0.47
\$	
Total Postage and Fees	\$3.77
\$	

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07/07/2016

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Street and Apt. No., or PO Box No.

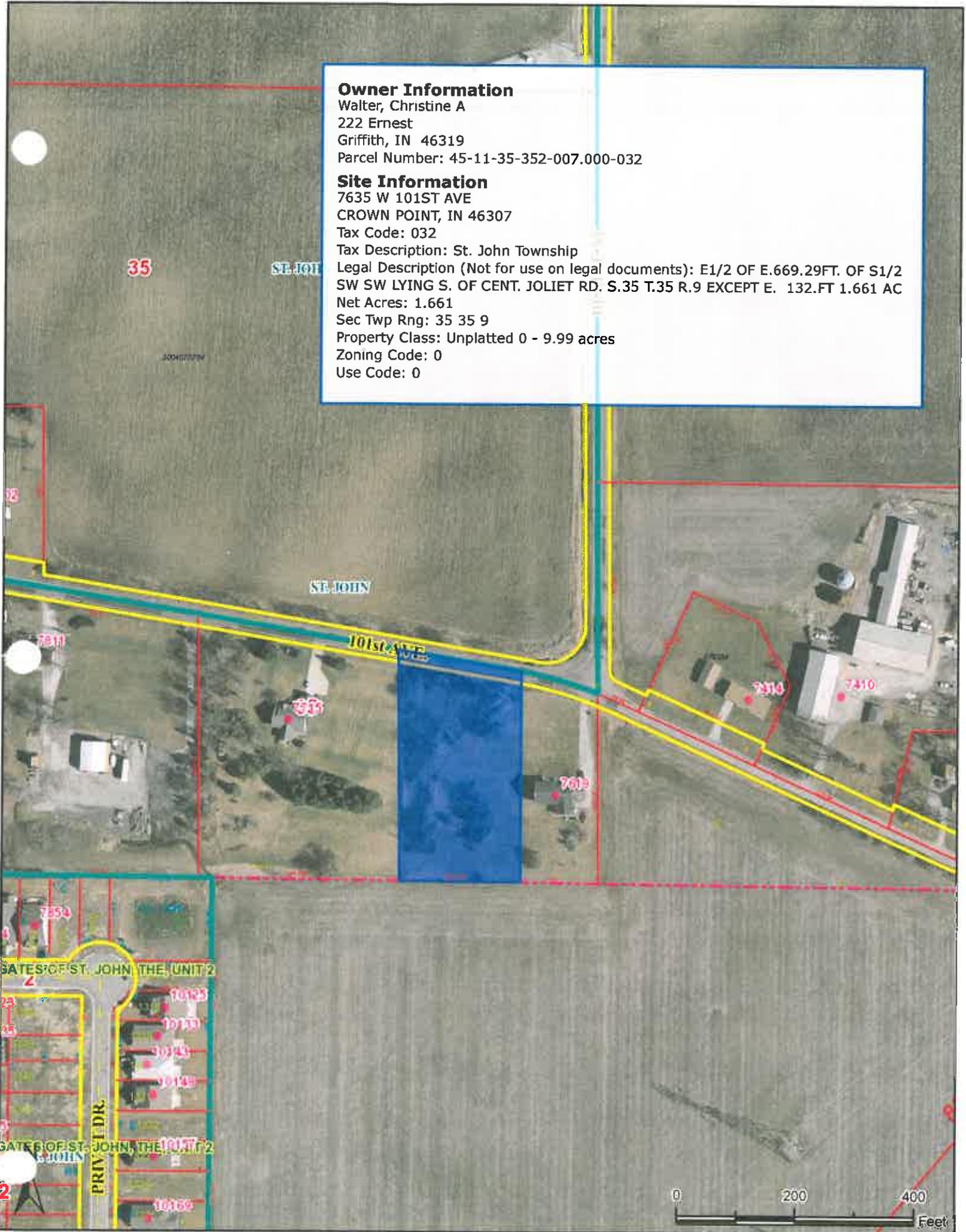
City, State, ZIP+4®

Owner Information

Walter, Christine A
222 Ernest
Griffith, IN 46319
Parcel Number: 45-11-35-352-007.000-032

Site Information

7635 W 101ST AVE
CROWN POINT, IN 46307
Tax Code: 032
Tax Description: St. John Township
Legal Description (Not for use on legal documents): E1/2 OF E.669.29FT. OF S1/2 SW SW LYING S. OF CENT. JOLIET RD. S.35 T.35 R.9 EXCEPT E. 132.FT 1.661 AC
Net Acres: 1.661
Sec Twp Rng: 35 35 9
Property Class: Unplatted 0 - 9.99 acres
Zoning Code: 0
Use Code: 0

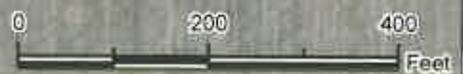
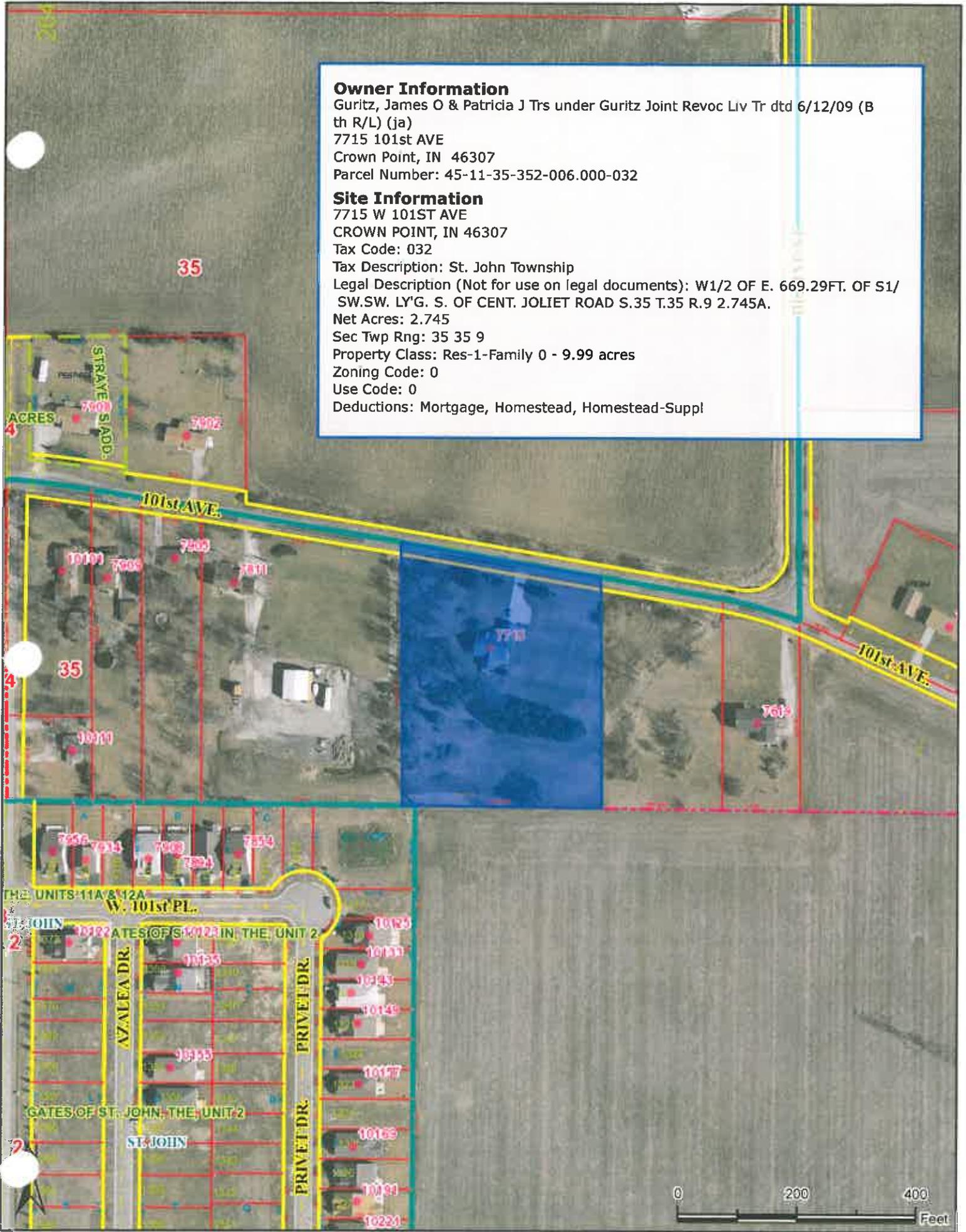


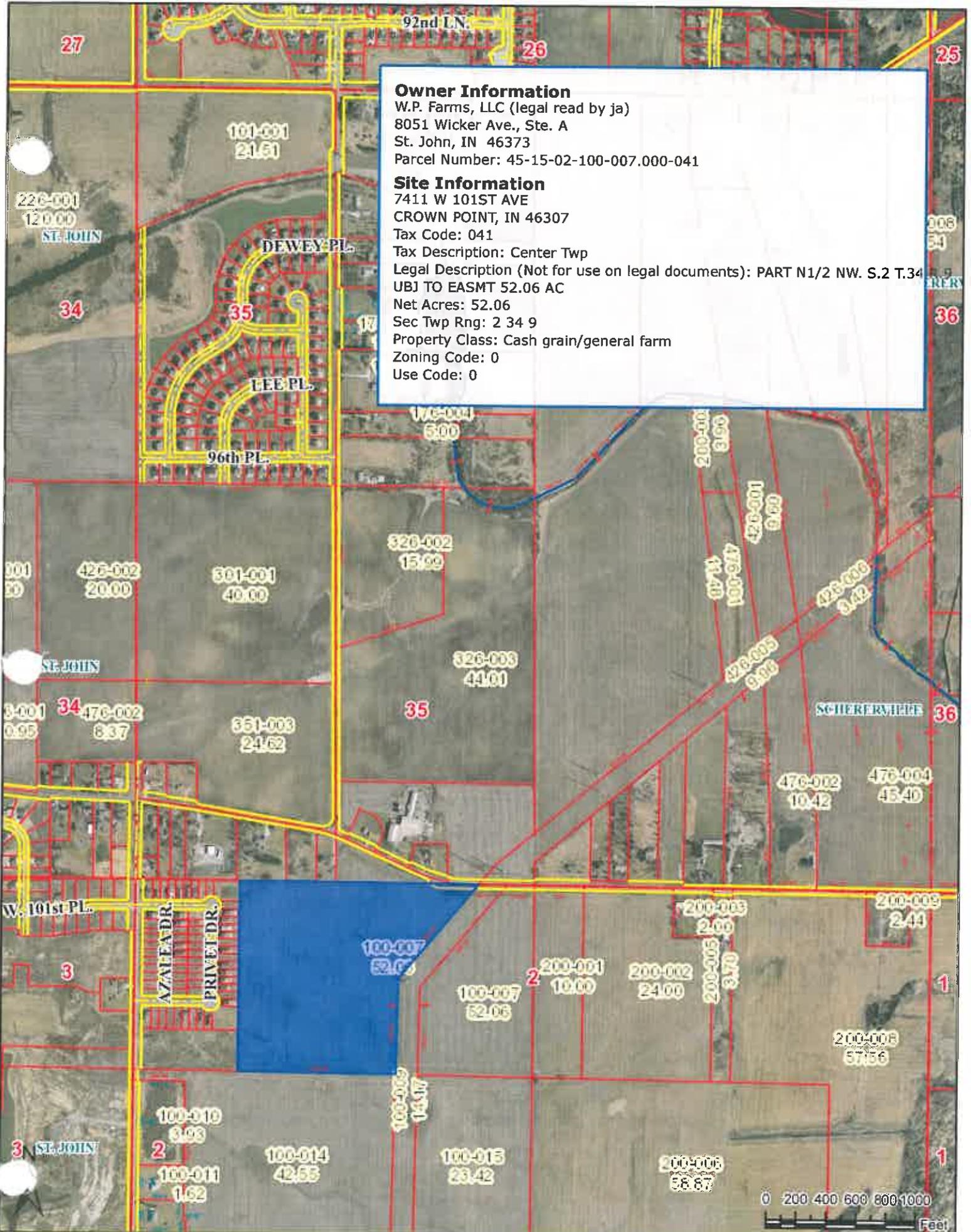
Owner Information

Guritz, James O & Patricia J Trs under Guritz Joint Revoc Liv Tr dtd 6/12/09 (B
th R/L) (ja)
7715 101st AVE
Crown Point, IN 46307
Parcel Number: 45-11-35-352-006.000-032

Site Information

7715 W 101ST AVE
CROWN POINT, IN 46307
Tax Code: 032
Tax Description: St. John Township
Legal Description (Not for use on legal documents): W1/2 OF E. 669.29FT. OF S1/
SW.SW. LY'G. S. OF CENT. JOLIET ROAD S.35 T.35 R.9 2.745A.
Net Acres: 2.745
Sec Twp Rng: 35 35 9
Property Class: Res-1-Family 0 - 9.99 acres
Zoning Code: 0
Use Code: 0
Deductions: Mortgage, Homestead, Homestead-Suppl





Owner Information
 W.P. Farms, LLC (legal read by ja)
 8051 Wicker Ave., Ste. A
 St. John, IN 46373
 Parcel Number: 45-15-02-100-007.000-041

Site Information
 7411 W 101ST AVE
 CROWN POINT, IN 46307
 Tax Code: 041
 Tax Description: Center Twp
 Legal Description (Not for use on legal documents): PART N1/2 NW. S.2 T.34
 UBJ TO EASMT 52.06 AC
 Net Acres: 52.06
 Sec Twp Rng: 2 34 9
 Property Class: Cash grain/general farm
 Zoning Code: 0
 Use Code: 0

7-B-1
10-19-16

**Agreement between the Lake County Soil and Water
Conservation District and the Lake County Surveyor's Office,
MS4 Stormwater Quality Department**

The Lake County Soil and Conservation District (SWCD) agrees to accept
And process the monies that the Lake County Surveyor's office is providing to
Lake County farmers under the county's MS4 Stormwater Quality Department as a partner to provide
an agricultural cover crop cost share funding.

The amount that is being paid to the SWCD is \$12,000.00 The SWCD will use the
Money to pay farmers at the rate of \$20 per acre on a maximum of 50
Acres, \$1,000.00 cap per year to offset the cost of planting an approved cover crop.

This is to improve the water quality of Lake County. These Conservation
Measures will provide stabilization of the surrounding agricultural land to
Minimize sediment and nutrient loading into the watershed.

Main purposes of Cover Crops are:

- Nitrogen Scavenger-trap N that would otherwise leach away
- Reduce Erosion and Sediment by providing surface cover and roots to hold soil
- Improve Soil Quality by building soil organic matter
- Recycle nutrients
- Weed Control, Pest Suppression
- Extra Forage

Kevin Garling 9-15-16
Kevin Garling, SWCD Chairman Date

William Emerson, Jr. 10-05-2016
William Emerson, Jr. Date

Approved on this 19th DAY OF OCTOBER 2016
Lake County Drainage Board

Gerry Scheub
Gerry Scheub, Chairman

Michael Repay K.B.
Michael Repay

Kyle W. Allen, Sr. D.H.
Kyle W. Allen, Sr.



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

7-B-2
10-19-16

Bill Emerson, Jr.
County Surveyor

September 22, 2016

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

RE: 11818 Lee Street (Unincorporated Crown Point/Center Twp.)

Dear Bill,

In response to Public Complaint 16-134 from Karen Nemcek of 11818 Lee Street, Crown Point (Center Twp.), an inspection was made at her property the week of September 1, 2016.

Mrs. Nemcek complains that the grassed swale which runs through her yard remains wet for extended periods of time. She feels that because of this, her small driveway bridge crossing, under which the swale passes, is being damaged. She also feels that her neighbor to the south (Ron Krivo, 11828 Lee St.) is directing water across her property, thereby causing the extended wet time and resulting bridge damage.

Mrs. Nemcek also showed me a small "pothole pond"/retention area to her south (on the Krivo property), which she feels is causing the wet conditions in the swale. However, as you can see from the attached topo map, due to natural conditions, water does appear to flow across Mr. Krivo's property, then north across the Nemcek property via a grassed swale and under their driveway towards the north adjoining property. Once it reaches the Nemcek's north property boundary however, I found that the grassed swale appears to have no outlet.

There is some evidence that a pipe/swale once existed here to continue conveying the water north towards the creek, but it has long since been filled in, collapsed, or otherwise failed. In my opinion, until this outlet across the north adjoining property is re-established, the swale on the Nemcek property will continue to experience prolonged wet periods.

In addition, I found no evidence that Mr. Krivo (the neighbor to the south), has improperly directed water onto their property. In fact, if the "pothole pond" did not exist on the Krivo property, the water being retained in this area, would likewise flow onto the Nemcek property and become impounded there because of the lack of a positive outlet.

Finally, my findings agree with those set out in a letter (attached) regarding the very same issue which was sent to the Nemcek's and to Mr. Krivo back in 2010 by R. Waid Dillon, the Professional Land Surveyor from our office, and Duane Alverson, P.E., Lake County Highway Engineer.

Our records indicate that no county easements of any kind exist in this location, making this area entirely private. Since the Lake County Surveyors Office/Lake County Drainage Board has no jurisdictional authority to perform any kind of maintenance on private property, this appears to be a matter to be resolved between the affected property owners.

Sincerely,

Chris Brown
MS4 Compliance Inspector

Cc: Rich Budziak, MS4 Coordinator
Dan Gossman, Drainage Administrator
Lake County Drainage Board/Advisory Committee
Dave Hubinger, Center Twp. Drainage Advisory Committee Representative
Albin & Karen Nemcek, 11818 Lee Street
Ron Krivo, 11828 Lee Street

Office of the Lake County Surveyor

Lake County Government Center - 2293 North Main Street - Crown Point, Indiana 46307
Phone: (219) 755-3725 - Fax: (219) 755-3725

GEORGE VAN TIL
County Surveyor



May 25, 2010

Subject: Drainage Complaint@11818 Lee Street, Crown Point, IN
Mr. and Mrs. Nemcek:

Per your Drainage complaint; Myself, Duane and Peggy from the Lake County Highway department visited your site on 5/25/2010 at approximately 9am. Ron Krivo was also present. We inspected the area and have the following comments/observations:

- 1] The grass swale in your yard was saturated.
- 2] Found remnants of a buried culvert drive under your North adjoiners drive
- 3] The Ditch Culvert underneath Lee Street north of your property has erosion near the road to and around the related CMP[culvert pipe].

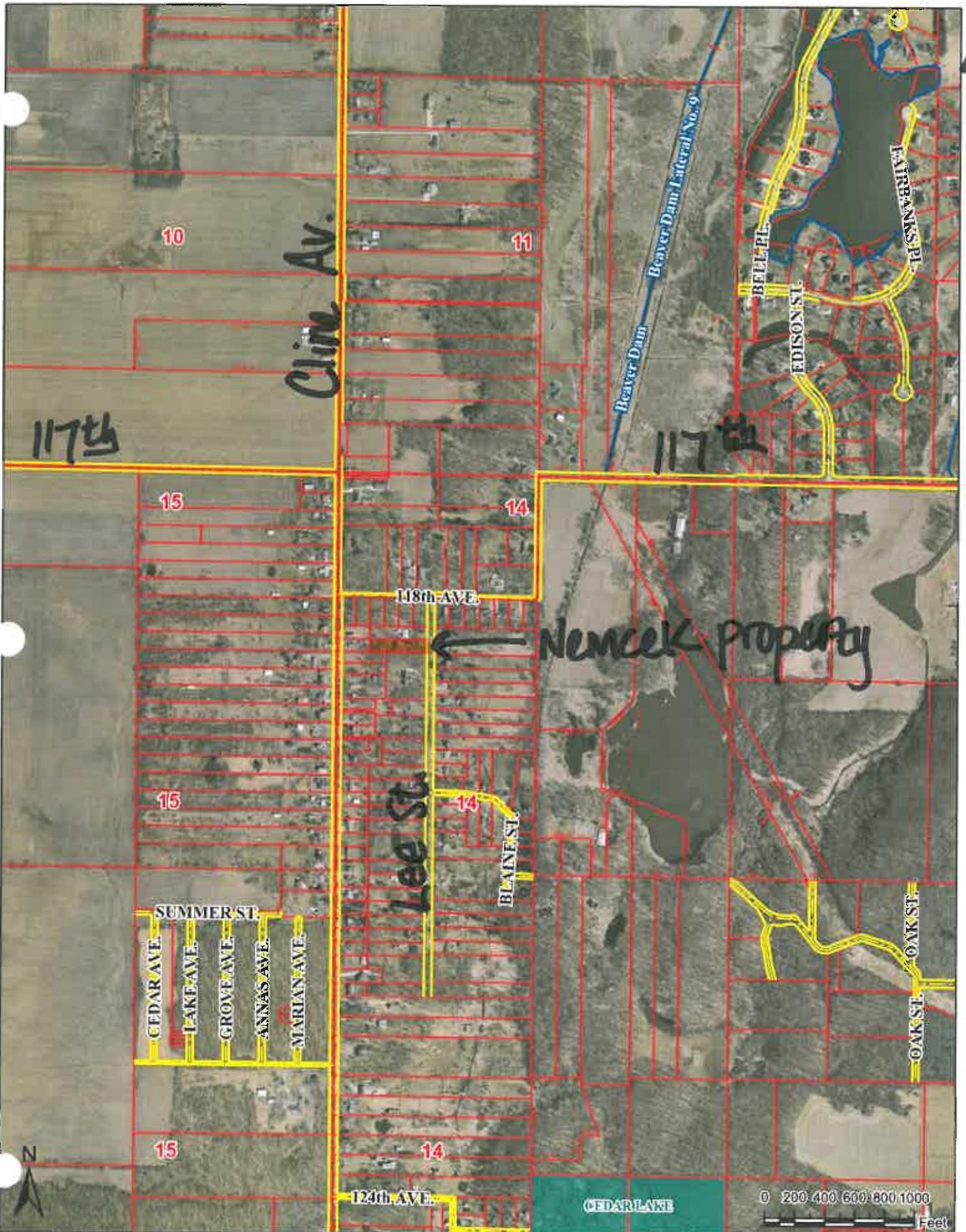
In conclusion, we believe that prolonged "wet time" in your grass swale is the result of a blocked outlet to the north. There is evidence that the related pipe/swale system there has been filled and is no longer functional. The related pipe may be broken too. With the information available, we believe this is a private issue between you and your North Adjoiner[11816 Lee]. We did not observe evidence that your South Adjoiner[Ron Krivo], has adversely directed water onto you. However, he does intend on doing some drainage improvements specific to his site. Please note that it appears overland flow in heavy rain events will flow over and through your property to the south. We would be willing to comment on any proposed drainage improvements[completed by an engineer or surveyor] between you and your north adjoiner. You may want to consider restoring this area to its previous condition. This may be a matter you want to consult an attorney and about and or discuss with your north adjoiner.

The highway department plans to put stone around aforesaid eroded area[item #3, Culvert under Lee St.]. That would conclude any County involvement in this matter.

Duane Alverson, Lake County Highway
Waid Dillon, Lake County Surveyors Office

Duane Alverson and Waid Dillon

Cc: George Van Til, Lake County Surveyor
Jodi Richmond, Emergency Management





9-A-1
10-19-16

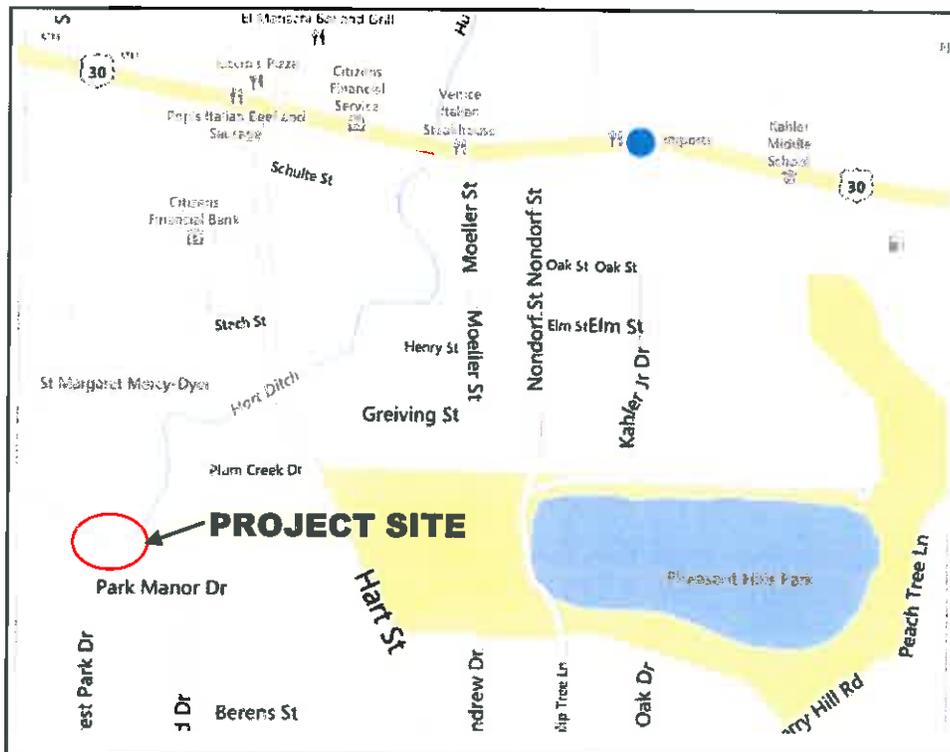
PLANS & SPECIFICATIONS FOR
HART DITCH – 2016
PARK MANOR DRIVE (Sta.25+98 to Sta. 28+27)

ST. JOHN TOWNSHIP
LITTLE CALUMET RIVER WATERSHED

PREPARED FOR
LAKE COUNTY DRAINAGE BOARD



LAKE COUNTY SURVEYOR – **BILL EMERSON, JR.**



CHRISTOPHER B. BURKE ENGINEERING, LLC
One Professional Center, Suite 314 Crown Point, Indiana 46307 Tel (219) 663-3410 Fax (219) 663-3450

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**HART DITCH – 2016
PARK MANOR DRIVE (Sta. 25+98 to Sta. 28+27)**

MAINTENANCE PROJECT

SPECIAL INSTRUCTIONS TO BIDDERS

A. GENERAL INFORMATION

1. It is the intention of the Lake County Drainage Board, hereinafter referred to as the Board, to secure bids for maintenance work to be performed on HART DITCH – 2016 PARK MANOR DRIVE (Sta. 25+98 to Sta. 28+27) hereinafter referred to as the Project, as identified and described herein and in the plans and specifications prepared by Christopher B. Burke Engineering, LLC, hereinafter referred to as the Engineer.
2. All bids for the proposed work shall be submitted on a unit price or lump sum basis, as applicable, and as set forth on the bid proposal form attached herein, all in accordance with the project documents.
3. The Board intends to review all bids for the project and upon final review and determination, award the bid to the successful bidder. Among other considerations, the successful bidder will be determined by the lowest overall total bid as provided in the bid proposal form attached herein. The total quantity of work to be awarded by the Board will be based on the total dollars available at the time of contract award and the respective applicable unit prices and/or lump sums of the successful bidder.
4. The bid proposal form to the Board consisting of 1 page, as set out hereinafter, shall be attached and submitted with Bid Form 96 and Form 95.

B. BIDDERS INFORMATION

1. It is the responsibility of all project bidders to review all bid documents to ascertain their effect on each bid.
2. It is the responsibility of all project bidders to carefully examine the project site and fully inform himself/herself with the limitations and conditions related to the work covered by his/her bid, and shall include in his/her bid a sum to cover the cost of all such items. It is the purpose and intent of the contract documents that a fully complete job

be accomplished. It is the responsibility of each bidder to include all costs necessary to provide all labor, materials and equipment for the portion of the work bid upon, including incidentals, whether or not specifically called for in the project plans and specifications. Each bidder by making his/her bid represents that he/she has read and understands the bid documents and represents that he/she has visited the site and has familiarized himself/herself with all the conditions under which the work is to be performed.

3. It is the responsibility of all bidders to contact all utility companies and public and/or private agencies to become familiar with the specific locations of all existing utilities and systems that will affect the work. The successful bidder shall protect all such systems and utilities, including all other improvements which may exist within or adjacent to the work area during the prosecution of the work. All existing improvements, utilities and systems that may be damaged during construction shall be repaired and/or replaced to a condition at least equal to that prior to such damage at no additional expense to the Board. All such companies shall be notified prior to commencement of the work to ensure that all existing utility lines and systems are located and identified by the affected companies.
4. All inquiries as to the documents, interpretations, substitutions, conflicts, discrepancies, omissions and questions shall be referred to the Engineer, as representative of the Board, who in turn will refer same to the Board.
5. All bidders in doubt as to the true meaning of any part of the project documents shall submit to the Engineer, not less than seven (7) days before the bid deadline, a written request for interpretation and clarification.
6. Bidders are responsible for acquiring any and all issued addenda in time to incorporate them into their bid. Each bidder shall enumerate all addenda he/she has received in his bid.
7. All bidders and their sub-contractors, if any, shall furnish proof, satisfactory to the Board, that they are in good standing and are authorized to do business in the State of Indiana and that they are licensed to perform the work within the County of Lake. All bidders shall hold a General Contractor License from the County of Lake. All bidders shall furnish a list of their sub-contractors, if any, including name, address and telephone numbers.
8. The County's affirmative action program as adopted by the County of Lake, dated May 31, 1977, a copy of which is on file in the Lake

County Auditor's office and the office of the Board of Commissioners of the County of Lake, is a condition of the project documents. The bidder shall submit, together with his/her bid, in writing, his/her affidavit, that he/she will comply with the County's affirmative action program.

9. It is recommended that all bidders attend any and all pre-bid conferences that may be scheduled by the Board.
10. The Lake County Surveyor and the Engineer, or their designated agents, will perform project supervision and periodic inspections to determine compliance with all project documents, percentages or inspections will include measurements and elevations of the completed work for compliance with the plans and specifications prior to payment recommendations to the Board.
11. The Contractor shall be permitted to submit claims for payment on a monthly basis as the work progresses, subject to a fifteen percent (15%) retainage, all as approved by the Lake County Surveyor and the Engineer. Fifteen percent (15%) of the completed value of the work shall be withheld by the Board for a period of sixty (60) days after the completion of the work and its acceptance by the Lake County Surveyor and the Engineer for the purpose of securing payment of suppliers, laborers and subcontractors, if any.

The Contractor shall be required to furnish a sworn statement of all indebtedness for labor and materials furnished, used or extended for said construction, the amount of due and to become due to each subcontractor and material supplier before issuance of any payment, and final waiver of lien and an affidavit showing all bills, on the issuance of the final payment.

Upon certifications by the Lake County Surveyor and the Engineer, the Board shall pay to the Contractor, on account of the contract, the value of labor and materials incorporated into the work.

12. A bid security in the form of a certified check/cashier's check or a bid bond from an acceptable surety made payable to the Board shall accompany each bid. The bid security shall be in the penal amount of five percent (5%) of the total bid. Bid security shall be forfeited if the bid is withdrawn after closing time on the date for receiving bids. Out of state bidders must submit a certified check of ten percent (10%) of the total bid made payable to the Board.

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.

13. All Contractors, including sub-contractors, shall carry full insurance coverage and certificates of insurance shall be delivered to the Board, upon signing of the contract.
 - a. Workmen's Compensation, as required by applicable Federal and State laws.
 - b. Contractor's Liability, including contractual liability, form of insurance shall be comprehensive general liability and comprehensive automobile liability \$500,000 CSL; for bodily injury, property damage and personal injury, including complete operations broad form; bodily injury and property damage, automobile liability, owned, non-owned and hired.
 - c. In addition to the above, the Contractor shall provide operations and products liability, XCU coverage and \$1,000,000 umbrella liability.
 - d. At all times during the progress of the work, the Contractor shall maintain such insurance as will protect and save harmless the Board, and its agents, from claims under the Workmen's Compensation Act, from any and all other claims for damages for property damage, personal injury and/or death and patent infringement, which may arise from operation under the contract documents, whether such act or omission be by itself or by an employee or sub-contractor or anyone directly or indirectly employed by either of them; and certificates of such insurance as required by the project documents shall be filed with the Board.
 - e. Should the Board suffer any damage, cost or expense, including attorney's fees, in any manner, because of any wrongful act or negligence of the Contractor, or anyone employed by it or a sub-contractor or the assertion of any claim of whatever nature which arises from operation under the contract documents, then

the Contractor shall reimburse the Board for any such damage and all reasonable attorney fees and expenses related to such claim and/or reimbursement thereto, all without relief from validation and appraisal laws.

C. RIGHT OF THE BOARD

1. The Board reserves the right to issue addenda changing, altering or supplementing the contract documents, at any time prior to the bid deadline.
2. The Board reserves the right to reject any or all bids and to waive any information or irregularity in any bid accepted.
3. The Board reserves the right to approve or reject any sub-contractor submitted by the bidders.
4. The Board reserves the right to award all or individual projects within the scope of work to comply with available funds.

APPROVED THIS 19 DAY OF OCTOBER 2016.

LAKE COUNTY DRAINAGE BOARD


GERRY J. SCHEUB, CHAIRMAN


MICHAEL REPAY, MEMBER


KYLE W. ALLEN, SR., MEMBER

GENERAL INFORMATION

A. INDR, COE AND STATE PERMITS

The Board will procure all necessary permits from the Indiana Department of Natural Resources, the Army Corps of Engineers and the Indiana Stream Pollution Control Board for the performance of the work. All such permits are considered part of the project documents and all work shall be performed in strict compliance with all provisions and conditions therein. In the event discrepancies exist between the project documents and the provisions and conditions of such permits, the Contractor shall immediately notify the Lake County Surveyor and the Engineer to resolve any such discrepancy.

B. CONSTRUCTION METHODS AND STANDARDS

All construction methods, standards and specifications, as adopted by the Board shall govern the performance of the work unless otherwise specified in the project documents.

C. WORK WITHIN EASEMENTS

All work shall be performed within the limits of the existing regulated drain easement for HART DITCH and within other access and work easements acquired by the Board as otherwise specified herein.

D. MAINTENANCE OF DRAINWAYS

All construction shall be performed in such a manner that will not interfere with existing drainage of the areas adjacent to the project. All work shall be performed in such a manner that will ensure proper drainage.

E. AUTHORIZATION TO PROCEED

No work shall be performed prior to receipt of "Authorization to Proceed" notification from the Lake County Surveyor.

F. CONTRACTOR'S SCHEDULE

The Contractor will be requested to attend a pre-construction conference to be scheduled by the Lake County Surveyor at which time the Contractor will be required to submit a construction schedule to the Lake County Surveyor prior to commencement of the work.

ATTACHMENT A

TECHNICAL SPECIFICATIONS

FOR

HART DITCH – 2016
PARK MANOR DRIVE (Sta. 25+98 to Sta. 28+27)

LAKE COUNTY, INDIANA

LAKE COUNTY DRAINAGE BOARD

GERRY L. SCHEUB, CHAIRMAN
MICHAEL REPAY, MEMBER
KYLE W. ALLEN, SR., MEMBER

RIPRAP BANK PROTECTION

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.5, Practice 510 and Section 5.10, Practice 1002). A copy of the latest version of the Handbook is available at the Lake County Surveyor's Office.

Description: This work shall consist of covering of a portion of a channel bank with a layer of stone at locations shown on the plans to protect streambank from erosion. When completed, the worked section shall approximate the natural slope of the channel bank. All work shall be performed within the existing 75-foot Drainage Board easement.

Access: Access to and within the work site shall be within the 75' drainage easement and/or within the public right-of-way. Care shall be taken to limit tree removal outside of the riprap area (for the purpose of gaining access to the work site) to an absolute minimum. Access shall not cross a waterway or traverse a wetland as indicated on the jurisdictional wetland map, unless pads are used as specified in Practice 103, Temporary Wetland Crossing.

Avoidance of Berens Monaldi Earthen Berm Flood Wall: For access to the project area, the existing Berens Monaldi Earthen Berm Flood Wall ranges from 20' to 40' south of the excavation limits identified on the stabilization plans for placement of the new riprap bank protection (Sta. 25+98 to Sta. 28+27). **The Contractor shall not disturb the earthen berm. Any damage to the berm must be repaired immediately and reported to the Lake County Surveyor's Office.**

Materials: Materials shall consist of revetment or hand-laid riprap, preferably from local sources, in accordance with the sizes and gradations as specified in the attached streambank stabilization plans. Geotextile fabric should be used for stabilization under all permanent riprap installations.

Site Preparation: This work shall include the removal of brush, trees, stumps and other debris on the slope to be dressed. The material removed shall be disposed of by a method approved by the Lake County Surveyor's Office.

Rough Excavation: After the "Site Preparation" work has been completed, rough excavation will be required to reshape the existing grade of the channel bank to prepare the slope for placement of riprap. This work shall be performed as specified in "CHANNEL BANK EXCAVATION (SLOPE PREPARATION FOR RIPRAP)".

Final Excavation and Slope Compaction: This work shall include final excavation, grading/flattening of the slope and compacting the slope. Final excavation shall be deep enough to accommodate the depth of filter and riprap as specified on the attached streambank stabilization plans. Contractor shall cut a keyway at base of slope to reinforce the toe; keyway depth should be 1.5 times the design thickness of the riprap and extend a horizontal distance equal to the design thickness. Foundation toe must be

properly reinforced to prevent undercutting or slumping. The excavated/prepared slope as well as any fill material shall be properly compacted to density of surrounding natural soil before the filter and the riprap are placed.

Spoil Material: Any spoil material generated during final grading must be disposed of off-site.

Placement of Riprap: This work shall include the placement of filter and riprap on a prepared slope. Contractor shall first place geotextile fabric on the slope in accordance with manufacturer's guidelines. The contractor shall spread the well-graded aggregate in accordance with the riprap gradations specified on the attached streambank stabilization plan.

Smaller rock as specified shall be placed in voids to form a dense, uniform, well-graded mass. Some hand placement of material will most likely be necessary. The contractor shall blend the riprap surface smoothly with the surrounding area and different gradations to eliminate protrusions or overfalls. Riprap may be either hand-placed or dumped. Riprap used must be of sizes as specified in the attached streambank stabilization plans and extend below the normal water level as detailed on the stabilization plans.

Measurement and Payment: This work shall be paid for at the contract unit price per ton for RIPRAP BANK PROTECTION which price shall include all materials including geotextile fabric, shaping, grading, compacting, use of machinery, labor and all other items necessary to complete the work to the satisfaction of the Lake County Surveyor.

CHANNEL BANK EXCAVATION (SLOPE PREPARATION FOR RIPRAP)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.6, Practice 602). A copy of the latest version of the Handbook is available at the Lake County Surveyor's Office.

Description: This work shall consist of cutting back and regrading eroded slopes, as specified, within the regulated drain to the required dimensions in reasonably close conformance with the lines and grades shown on the plans. This rough excavation is required to prepare the slope for the installation of riprap. All work shall be performed within the existing 75-foot Drainage Board easement.

Excavation: The contractor shall excavate the eroded bank sections as shown on the typical sections. Cross-section geometry should, in general, be trapezoidal with positive grade. Side slopes of should be cut away from the edge of water so as not to compromise channel bank stability and shall be in conformance with the slopes specified on the streambank stabilization plans and sections.

Spoil Material: Spoil material shall be disposed of off-site.

Measurement and Payment: This work shall be paid for at the contract unit price per cubic yard for CHANNEL BANK EXCAVATION (SLOPE PREPARATION FOR RIPRAP) which price shall include all excavation, spoil disposal, and all other items necessary to complete the work to the satisfaction of the Lake County Surveyor. The measurement for payment shall be based on the volume of material actually excavated, including transitional areas, to the lines, grades and typical cross-sections specified. All excavation, spoil disposal and all other items necessary to complete the work to the satisfaction of the Lake County Surveyor will not be measured for payment but shall be considered as included in the pay item for CHANNEL BANK EXCAVATION (SLOPE PREPARATION FOR RIPRAP) per cubic yard as specified.

MULCHED SEEDING

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.11, Practice 1102). A copy of the latest version of the Handbook is available at the Lake County Surveyor's Office.

Description: This work shall consist of the application of seeding, plant residues or other suitable material to disturbed soil surface areas.

Location: Top of spoil pile and other areas disturbed by machinery, and bank restoration.

Materials/Installation: This work shall be in accordance with Section 621 of the Indiana Department of Transportation Standard Specifications, latest edition, except the seed mixture.

Seed mixtures shall be as follows:

<u>Common Name</u>	<u>Botanic Name</u>	<u>Seeding Rate</u>
<u>Banks and Slopes (Stabilizing Matrix Species)</u>		
Big Bluestem	Andropogon gerardii	5 lb/ac
Brown Fox Sedge	Carex vulpinoidea	0.25 lb/ac
Canada Wild Rye	Elymus canadensis	5 lb/ac
Streambank Rye	Elymus riparius	1 lb/ac
Silky Wild Rye	Elymus vilosus	1 lb/ac
Virginia Wild Rye	Elymus virginicus	3 lb/ac
Torrey's Rush	Juncus torreyi	0.01 lb/ac
Evening Primrose	Oenothera biennis	0.25 lb/ac
Switch Grass	Panicum virgatum	1 lb/ac
Indian Grass	Sorghastrum natans	5 lb/ac
Prairie Cord Grass	Spartina pectinata	0.01 lb/ac
Blue Vervain	Verbena hastate	1 lb/ac

Measurement and Payment: This work shall be paid for at the contract unit price per acre for MULCHED SEEDING which price shall be payment in full for constructing this item as specified, including all materials, labor, and equipment.

EROSION BLANKET (COMMON)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.11, Practice 1104). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of furnishing all labor, materials, tools and equipment necessary to place EROSION BLANKET (COMMON) on disturbed areas of the Project or as directed by the Engineer.

The erosion control blanket shall be a machine-produced mat of 70% straw/30% coconut fiber matrix incorporated into a two-dimensional biodegradable jute mat. The netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands to form an approximate 0.50 x 1.0 inch (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread.

The mat shall meet Type 3.B specification requirements established by the Erosion Control Technology Council (ECTC) Specification and the U.S. Department of Transportation, Federal Highway Administration's (FHWA) *Standard Specifications For Construction of Roads and Bridges on Federal Highway Projects, FP-03 2003 Section 713.17*.

Installation staple patterns shall be clearly marked on the turf reinforcement mattings with environmentally safe paint. All mats shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

The erosion control blanket shall be the Tensar-North American Green SC150BN, or equivalent. The SC150BN erosion control blanket shall have the following physical properties:

Material Content

Matrix	70% Straw Fiber (0.35 lb/yd ²) (0.19 kg/m ²) 30% Coconut Fiber (0.15 lb/yd ²) (0.08 kg/m ²)
Netting	Top – Leno woven 100% biodegradable jute (9.35 lb/1,000 ft ² [4.5 kg/100 m ²] approximate weight) Bottom – 100% biodegradable organic jute (7.7 lbs/1,000 ft ² [3.76 kg/100 m ²] approximate weight)

Thread Biodegradable

The blanket shall be provided in rolls 6.7 ft wide by 108 ft long. The weight shall be 52 lbs \pm 10%.

The erosion control blanket shall be installed in accordance with the manufacture's recommendations. Where necessary, check slots shall be cut for any stumps or objects to remain that protrude from the ground surface.

Method of Measurement: This work will be measured in place and the area computed in square yards.

Basis of Payment: The work will be paid for at the contract unit price per square yard for EROSION BLANKET (COMMON), which price shall constitute full compensation for all labor, materials and equipment necessary to complete the work as specified.

SUPPLEMENTAL BID PROPOSAL FORM (TO BE ATTACHED & MADE PART OF FORM 96)

PROJECT: HART DITCH PARK MANOR DRIVE – 2016 (Sta. 25+98 to 28+27)

The undersigned, having familiarized himself/herself/themselves with local contract documents, comprised of the following:

1. Project documents for the project known as HART DITCH PARK MANOR DRIVE – 2016 (Sta. 25+98 to 28+27), 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	Qty.	Unit Price	Total
1	Rip-Rap Bank Protection STA 25+98 to 28+27 (South Bank) = 229 LF	TON	1275		
2	Channel Bank Excavation (Slope Preparation for Riprap) STA 25+98 to 28+27 (South Bank) = 229 LF	CYS	840		
2	Mulched Seeding (<i>stabilizing matrix species mix</i>) Disturbed Areas	AC	0.2		
3	Erosion Blanket (Common) STA 23+95 to 28+27 = 444 LF (432')(13') = (5,616 SF) / 9 = 624 SY	SY	624		
Total Bid Price		\$			

BIDDERS PROPOSAL FOR MAKING ENTIRE IMPROVEMENT

\$ _____
(WORDS)

This proposal submitted this _____ day of _____, 2016.

Corporate Name: _____

Address: _____

By: _____

Title: _____

LAKE COUNTY DRAINAGE BOARD

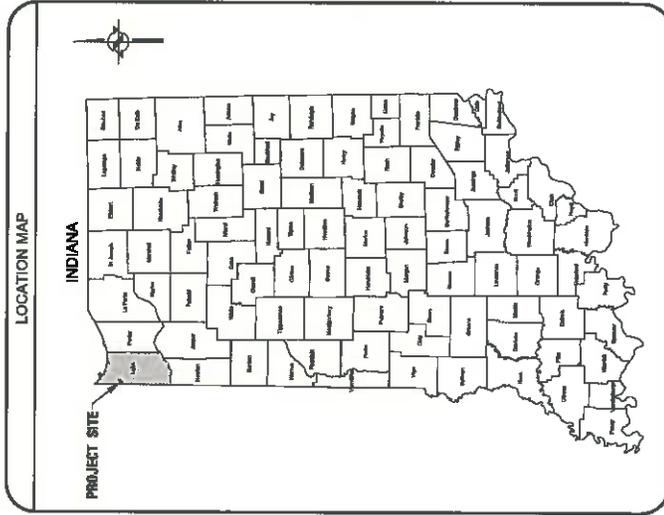
HART DITCH 2016

PROPOSED STREAMBANK RESTORATION PLANS

PARK MANOR DRIVE (STA. 25+98 TO STA. 28+27)

DYER, INDIANA

LAKE COUNTY SURVEYOR - BILL EMERSON, JR.



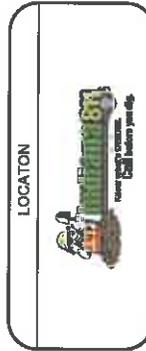
SHEET INDEX	
1	COVER SHEET
2	PROJECT OVERVIEW SHEET
3	CROSS-SECTIONS SHEET

PREPARED FOR
LAKE COUNTY DRAINAGE BOARD

PREPARED BY
CB
CHRISTOPHER B. BURKE ENGINEERING, LLC.
ONE PROFESSIONAL CENTER, STE 314
CROWN POINT, IN 46037
TEL (219) 463-3410
FAX (219) 683-3465

BENCHMARK

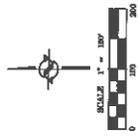
INDIANA STATE HIGHWAY COMMISSION BRONZE CAP SET IN NORTHWEST CORNER OF U.S. ROUTE 30 BRIDGE OVER HART DITCH, BLOOM TWP, INDIANA
BENCHMARK MONUMENT ON NORTH SIDE OF HOSPITAL ROAD, WEST OF HOSPITAL ROAD, INDIANA
ELEVATION 441.40



LOCATOR

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND MEASUREMENTS OF CONSTRUCTION

ENGINEER _____ DATE _____
INDIANA REGISTRATION NO. 1078229
EXPIRATION DATE: 07/16

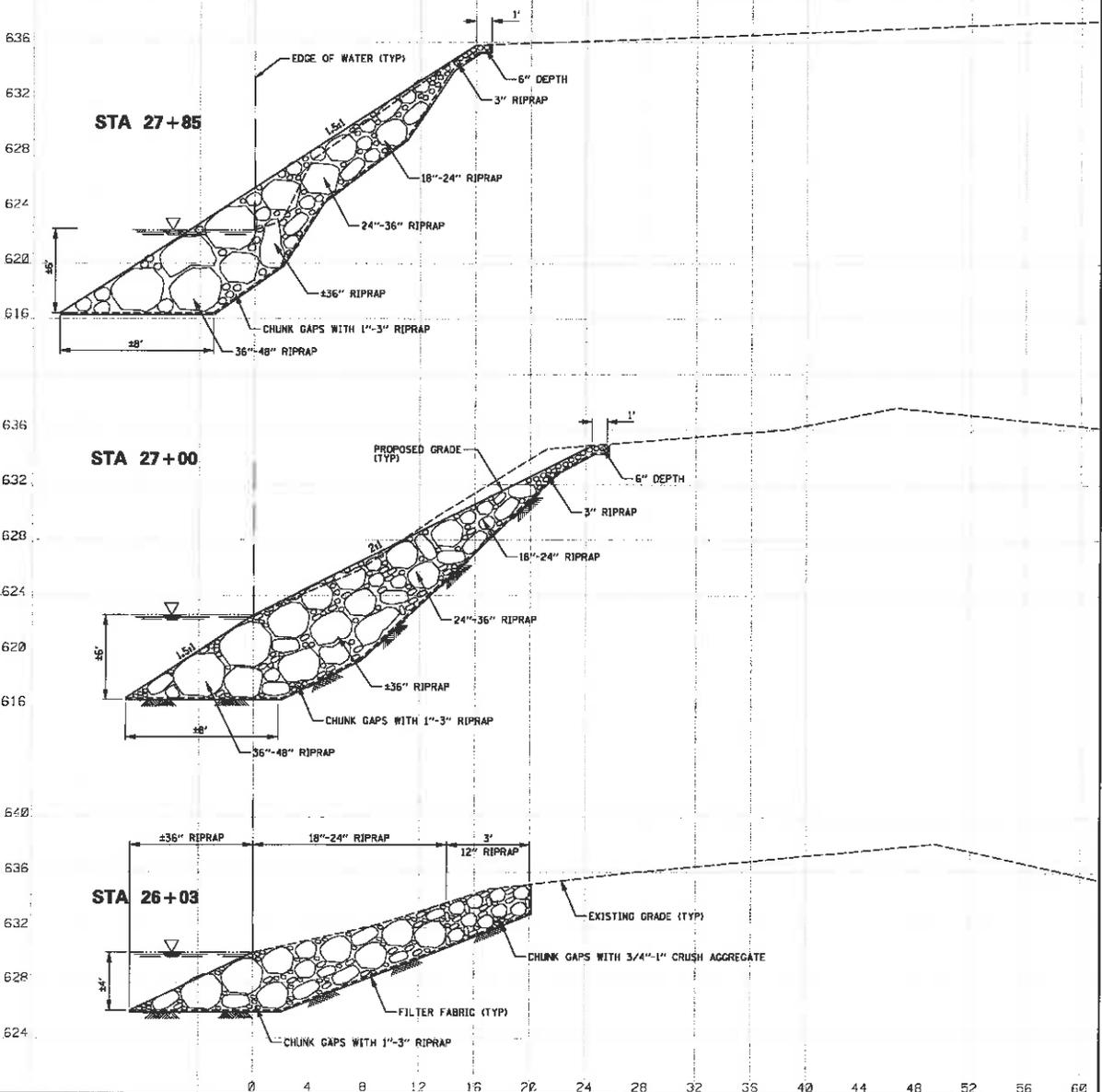


LEGEND

- STA 25+00 DESIGN CROSS-SECTION (TYP)
- ▨ RIPRAP STONE TOE TREATMENT

FLOODWAY BOUNDARY TAKEN FROM
 LAKE COUNTY, INDIANA AND INCORPORATED
 AREAS FIRM MAP PANEL 210 OF 480,
 DATED JANUARY 18, 2012

<p>CLIENT</p> <p>CHRISTOPHER B. BURKE ENGINEERING, LTD. 8575 W. Higgins Road, Suite 800 Rosemont, Illinois 60018 (847) 822-0590</p>	<p>TITLE</p> <p>LAKE COUNTY DRAINAGE BOARD</p>	<p>PROJECT OVERVIEW</p> <p>HART DITCH</p> <p>STA 25+98 TO STA 28+27</p>
<p>DATE</p> <p>10/11/2018</p>	<p>DESIGNER</p> <p>10/11/2018</p>	<p>DRAWING NO.</p> <p>2</p>



10/11/2016 10:56:00 AM C:\Users\jma\OneDrive\Documents\Projects\2016\2016-10-11\2016-10-11.dwg



LAKE COUNTY DRAINAGE BOARD
 BUILDING "A" 3rd FLOOR
 2293 NORTH MAIN STREET
 CROWN POINT, IN 46307

CHRISTOPHER B. BURKE ENGINEERING, LTD.
 8575 W. Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 823-0500

HART DITCH-DYER INDIANA
STREAMBANK STABILIZATION PLANS
STA 25+98 TO STA 28+27

 DESN. jma
 DWN. EAT
 CHKD.
 FILED

 SCALE: 1"=4'
 PLOT DATE: 10/11/2016
 CAD USER: ginofo90
 MODL: Default

930165.02D15 PHASE 5B
 DATE: 10/11/2016
 DRAWING NO. **3**

PLANS & SPECIFICATIONS FOR
CADY MARSH DITCH – 2016
COLFAX TO ROSS (Sta. 193+25 to 233+50)

CALUMET TOWNSHIP
LITTLE CALUMET RIVER WATERSHED

PREPARED FOR
LAKE COUNTY DRAINAGE BOARD



LAKE COUNTY SURVEYOR – BILL EMERSON, JR.



CHRISTOPHER B. BURKE ENGINEERING, LLC

One Professional Center, Suite 314 Crown Point, Indiana 46307 Tel (219) 663-3410 Fax (219) 663-3450

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LOCATION MAP and PROJECT PLANS 6 PAGES

**CADY MARSH DITCH – 2016
COLFAX TO ROSS (Sta. 193+25 to Sta. 233+50)**

MAINTENANCE PROJECT

SPECIAL INSTRUCTIONS TO BIDDERS

A. GENERAL INFORMATION

1. It is the intention of the Lake County Drainage Board, hereinafter referred to as the Board, to secure bids for maintenance work to be performed on CADY MARSH DITCH – 2016 COLFAX TO ROSS (Sta. 193+25 to Sta. 233+50) hereinafter referred to as the Project, as identified and described herein and in the plans and specifications prepared by Christopher B. Burke Engineering, LLC, hereinafter referred to as the Engineer.
2. All bids for the proposed work shall be submitted on a unit price or lump sum basis, as applicable, and as set forth on the bid proposal form attached herein, all in accordance with the project documents.
3. The Board intends to review all bids for the project and upon final review and determination, award the bid to the successful bidder. Among other considerations, the successful bidder will be determined by the lowest overall total bid as provided in the bid proposal form attached herein. The total quantity of work to be awarded by the Board will be based on the total dollars available at the time of contract award and the respective applicable unit prices and/or lump sums of the successful bidder.
4. The bid proposal form to the Board consisting of 3 pages, as set out hereinafter, shall be attached and submitted with Bid Form 96 and Form 95.

B. BIDDERS INFORMATION

1. It is the responsibility of all project bidders to review all bid documents to ascertain their effect on each bid.
2. It is the responsibility of all project bidders to carefully examine the project site and fully inform himself/herself with the limitations and conditions related to the work covered by his/her bid, and shall include in his/her bid a sum to cover the cost of all such items. It is the purpose and intent of the contract documents that a fully complete job be accomplished. It is the responsibility of each bidder to include all costs necessary to provide all labor, materials and equipment for the portion of

the work bid upon, including incidentals, whether or not specifically called for in the project plans and specifications. Each bidder by making his/her bid represents that he/she has read and understands the bid documents and represents that he/she has visited the site and has familiarized himself/herself with all the conditions under which the work is to be performed. Site access is the sole responsibility of the Contractor. Areas disturbed as part of access to any portion of the project should be properly stabilized and restored to existing conditions. This restoration should be considered incidental to the contract.

3. It is the responsibility of all bidders to contact all utility companies and public and/or private agencies to become familiar with the specific locations of all existing utilities and systems that will affect the work. The successful bidder shall protect all such systems and utilities, including all other improvements which may exist within or adjacent to the work area during the prosecution of the work. All existing improvements, utilities and systems that may be damaged during construction shall be repaired and/or replaced to a condition at least equal to that prior to such damage at no additional expense to the Board. All such companies shall be notified prior to commencement of the work to ensure that all existing utility lines and systems are located and identified by the affected companies.
4. All inquiries as to the documents, interpretations, substitutions, conflicts, discrepancies, omissions and questions shall be referred to the Engineer, as a representative of the Board, who in turn will refer same to the Board.
5. All bidders in doubt as to the true meaning of any part of the project documents shall submit to the Engineer, not less than seven (7) days before the bid deadline, a written request for interpretation and clarification.
6. Bidders are responsible for acquiring any and all issued addenda in time to incorporate them into their bid. Each bidder shall enumerate all addenda he/she has received in his/her bid.
7. All bidders and their sub-contractors, if any, shall furnish proof, satisfactory to the Board, that they are in good standing and are authorized to do business in the State of Indiana and that they are licensed to perform the work within the County of Lake. All bidders shall hold a General Contractor License from the County of Lake. All bidders shall furnish a list of their sub-contractors, if any, including name, address and telephone numbers.
8. The County's affirmative action program as adopted by the County of Lake, dated May 31, 1977, a copy of which is on file in the Lake County

Auditor's office and the office of the Board of Commissioners of the County of Lake, is a condition of the project documents. The bidder shall submit, together with his/her bid, in writing, his/her affidavit, that he/she will comply with the County's affirmative action program.

9. It is recommended that all bidders attend any and all pre-bid conferences that may be scheduled by the Board.
10. The Lake County Surveyor and the Engineer, or their designated agents, will perform project supervision and periodic inspections to determine compliance with all project documents; percentages or inspections will include measurements and elevations of the completed work for compliance with the plans and specifications prior to payment recommendations to the Board.
11. The Contractor shall be permitted to submit claims for payment on a monthly basis as the work progresses, subject to a fifteen percent (15%) retainage, all as approved by the Lake County Surveyor and the Engineer. Fifteen percent (15%) of the completed value of the work shall be withheld by the Board for a period of sixty (60) days after the completion of the work and its acceptance by the Lake County Surveyor and the Engineer for the purpose of securing payment of suppliers, laborers and subcontractors, if any.

The Contractor shall be required to furnish a sworn statement of all indebtedness for labor and materials furnished, used or extended for said construction, the amount of due and to become due to each subcontractor and material supplier before issuance of any payment, and final waiver of lien and an affidavit showing all bills, on the issuance of the final payment.

Upon certifications by the Lake County Surveyor and the Engineer, the Board shall pay to the Contractor, on account of the contract, the value of labor and materials incorporated into the work.

12. A bid security in the form of a certified check/cashier's check or a bid bond from an acceptable surety made payable to the Board shall accompany each bid. The bid security shall be in the penal amount of five percent (5%) of the total bid. Bid security shall be forfeited if the bid is withdrawn after closing time on the date for receiving bids. Out of state bidders must submit a certified check of ten percent (10%) of the total bid made payable to the Board.

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.

13. All Contractors, including sub-contractors, shall carry full insurance coverage and certificates of insurance shall be delivered to the Board, upon signing of the contract.
 - a. Workmen's Compensation, as required by applicable Federal and State laws.
 - b. Contractor's Liability, including contractual liability, form of insurance shall be comprehensive general liability and comprehensive automobile liability \$500,000 CSL; for bodily injury, property damage and personal injury, including complete operations broad form; bodily injury and property damage, automobile liability, owned, non-owned and hired.
 - c. In addition to the above, the Contractor shall provide operations and products liability, XCU coverage and \$1,000,000 umbrella liability.
 - d. At all times during the progress of the work, the Contractor shall maintain such insurance as will protect and save harmless the Board, and its agents, from claims under the Workmen's Compensation Act, from any and all other claims for damages for property damage, personal injury and/or death and patent infringement, which may arise from operation under the contract documents, whether such act or omission be by itself or by an employee or sub-contractor or anyone directly or indirectly employed by either of them; and certificates of such insurance as required by the project documents shall be filed with the Board.
 - e. Should the Board suffer any damage, cost or expense, including attorney's fees, in any manner, because of any wrongful act or negligence of the Contractor, or anyone employed by it or a sub-contractor or the assertion of any claim of whatever nature which arises from operation under the contract documents, then the Contractor shall reimburse the Board for any such damage and all reasonable attorney fees and expenses related to such claim

and/or reimbursement thereto, all without relief from validation and appraisal laws.

C. RIGHT OF THE BOARD

1. The Board reserves the right to issue addenda changing, altering or supplementing the contract documents, at any time prior to the bid deadline.
2. The Board reserves the right to reject any or all bids and to waive any information or irregularity in any bid accepted.
3. The Board reserves the right to approve or reject any sub-contractor submitted by the bidders.
4. The Board reserves the right to award all or individual projects within the scope of work to comply with available funds.

APPROVED THIS 19 DAY OF OCTOBER 2016

LAKE COUNTY DRAINAGE BOARD


GERRY J. SCHEUB, CHAIRMAN


MICHAEL REPAY, MEMBER


KYLE W. ALLEN, SR., MEMBER

GENERAL INFORMATION

A. INDR, COE AND STATE PERMITS

The Board will procure all necessary permits from the Indiana Department of Natural Resources, the Army Corps of Engineers and the Indiana Stream Pollution Control Board for the performance of the work. All such permits are considered part of the project documents and all work shall be performed in strict compliance with all provisions and conditions therein. In the event discrepancies exist between the project documents and the provisions and conditions of such permits, the Contractor shall immediately notify the Lake County Surveyor and the Engineer to resolve any such discrepancy.

B. CONSTRUCTION METHODS AND STANDARDS

All construction methods, standards and specifications, as adopted by the Board shall govern the performance of the work unless otherwise specified in the project documents.

C. WORK WITHIN EASEMENTS

All work shall be performed within the limits of the existing regulated drain easement for CADY MARSH DITCH and within other access and work easements acquired by the Board as otherwise specified herein.

D. MAINTENANCE OF DRAINWAYS

All construction shall be performed in such a manner that will not interfere with existing drainage of the areas adjacent to the project. All work shall be performed in such a manner that will ensure proper drainage.

E. AUTHORIZATION TO PROCEED

No work shall be performed prior to receipt of "Authorization to Proceed" notification from the Lake County Surveyor.

F. CONTRACTOR'S SCHEDULE

The Contractor will be requested to attend a pre-construction conference to be scheduled by the Lake County Surveyor at which time the Contractor will be required to submit a construction schedule to the Lake County Surveyor prior to commencement of the work.

ATTACHMENT A

TECHNICAL SPECIFICATIONS

FOR

CADY MARSH DITCH – 2016
COLFAX TO ROSS (Sta. 193+25 to Sta. 233+50)

LAKE COUNTY, INDIANA

LAKE COUNTY DRAINAGE BOARD

GERRY L. SCHEUB, CHAIRMAN
MICHAEL REPAY, MEMBER
KYLE W. ALLEN, SR., MEMBER

LOGJAM REMOVAL (CLEARING AND SNAGGING)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.4, Practices 401 and 402). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of removing accumulations of logs, root wads, beaver dams, trees in danger of falling into the stream or obstructing the flow, and other debris that span the waterway using hand-operated and/or heavy equipment from the side of the channel without disturbing the ditch banks. All work shall be performed within the existing 75-foot Drainage Board easement.

Access: Access to and within the work site shall be within the 75' drainage easement. Care shall be taken to limit tree removal (for the purpose of gaining access to the work site) to an absolute minimum. Access shall not cross a waterway or traverse a wetland as indicated on the jurisdictional wetland map, unless pads are used as specified in Practice 103, Temporary Wetland Crossing.

Equipment: Hand-operated equipment, such as axes, chain saws, and portable winches shall be used for removal of obstructions, unless determined impracticable. Where heavy equipment is necessary for removal of obstructions, only suitable equipment not equipped for excavation such as small tractors, backhoe equipped with a hydraulic thumb, bulldozer with its blade up, or a log skidder shall be used.

Removal of Trees, Tree Parts, and Foreign Material: The Contractor shall cut, relocate and remove from the floodplain and/or wetlands, any free logs or affixed logs, including foreign material, that are crossway in the channel. Logs shall be removed with minimal damage to vegetation and placed outside of wetlands. Limits of jurisdictional wetlands are shown on the plans and copies of maps showing floodway limits are available at the Office of the Lake County Surveyor. Isolated or single logs that are embedded, lodged, or rooted in the channel, and which do not span the channel or cause flow problems, shall not be removed, unless they are associated with or in close proximity to larger obstructions, or they pose a hazard to navigation. Severely damaged, dead, leaning or other trees, which are in immediate danger of falling into the waterway, shall be cut and removed. **The root system and stump of the tree shall be left in place.** Stumps shall be cut as low as possible and parallel with the slope of the bank but in no case higher than twelve inches, unless authorized by the County Surveyor's Office. Stump splinters shall also be cut off. It shall be the contractor's responsibility to walk the site and estimate the size and number of these trees to be removed. Cut stumps shall be treated with herbicide as soon as possible after cutting, preferably less than 2 hours. Stumps should be saturated, especially in the cambial area. Cut stumps shall be treated with Garlon 3A or approved equal but Tordon will not be allowed.

Removed Tree and Tree Parts: All trees, logs and other tree parts cut, broken, and/or removed by the contractor shall be disposed of off-site unless other written arrangements

have been made with the adjacent landowner and approved by the Lake County Surveyor.

The removed trees and brush may be mulched (chipped) and spread on top of the ditch bank, outside of the floodway limits, in a manner approved by the Lake County Surveyor's office. If the contractor chooses to remove materials from the site, the materials shall be disposed of by the contractor in an approved manner at an approved disposal site, all of which must be approved by the Lake County Surveyor's office.

Measurement and Payment: This work shall be paid for at the contract unit price per foot for LOGJAM REMOVAL (CLEARING AND SNAGGING) which price shall include all cutting, relocation and removing of trees, tree parts and foreign material, including disposal and all other items necessary to complete the work to the satisfaction of the Lake County Surveyor.

CHANNEL BOTTOM DIPPING (SEDIMENT REMOVAL)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.6, Practice 601). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of dipping, dredging, and/or removing sediment from the channel bottom with a bucket from one side of the channel without disturbing the ditch banks. **All work adjacent to wetland areas shall be performed from the bank opposite of the wetland area or in cases where wetlands are on both sides of the ditch, drag line mat must be used.** All work shall be performed within the existing 75-foot Drainage Board easement. The work shall also include the removal of sediment from identified culverts within the regulated drain.

Excavation: The contractor shall excavate the low flow channel below the existing flow line to the channel bottom as shown on the typical sections. Cross-section geometry should, in general, be trapezoidal with positive grade. Side slopes of excavated low flow area should be cut away from the edge of water so as not to compromise channel bank stability and shall not exceed a maximum slope of 2:1 (1V: 2H). A minimum twenty- (20) foot longitudinal transition shall be provided from the full-cut excavated area to the undisturbed ditch bottom.

Spoil Material: Spoil material shall be disposed of adjacent to the excavated area unless other written arrangements have been made with the adjacent landowner and approved by the Lake County Surveyor. Spoil shall be placed landward of the channel bank a distance of ten feet (or more, as needed to stay outside of the floodway limit) to allow for future maintenance access. Spoil shall be leveled to have a foreslope of 5:1 (1V: 5H) or flatter so as not to severely impact stream system and applied erosion control measures. From the maximum height, the spoil shall have an 8:1 (1V: 8H) back slope to existing grade. Grading of spoil material shall coincide with adjacent stream overbank topography. Spoil piles shall be cut (notched) to allow for positive drainage from adjacent properties.

Spoil material shall not be placed in the floodway or in the wetlands. Limits of jurisdictional wetlands are shown on the plans and copies of maps showing floodway limits are available at the Office of the Lake County Surveyor.

Measurement and Payment: This work shall be paid for at the contract unit price per cubic yard for CHANNEL BOTTOM DIPPING (SEDIMENT REMOVAL) which price shall include all excavation (including any sediment removal from within culverts), spoil disposal, and all other items necessary to complete the work to the satisfaction of the Lake County Surveyor.

dumped. Riprap used must be of sized according to INDOT standard specifications and extend at least 12 inches below normal water level to provide habitat for aquatic organisms in the voids.

Measurement and Payment: This work shall be paid for at the contract unit price per ton for RIPRAP BANK PROTECTION which price shall include all materials including geotextile fabric, shaping, grading, compacting, use of machinery, labor and all other items necessary to complete the work to the satisfaction of the Lake County Surveyor.

EROSION BLANKET (COMMON)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.11, Practice 1104). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of furnishing all labor, materials, tools and equipment necessary to place EROSION BLANKET (COMMON) on spoil piles or as directed by the Engineer.

The erosion control blanket shall be a machine-produced mat of 70% straw/30% coconut fiber matrix incorporated into a two-dimensional biodegradable jute mat. The netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands to form an approximate 0.50 x 1.0 inch (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread.

The mat shall meet Type 3.B specification requirements established by the Erosion Control Technology Council (ECTC) Specification and the U.S. Department of Transportation, Federal Highway Administration's (FHWA) *Standard Specifications For Construction of Roads and Bridges on Federal Highway Projects, FP-03 2003 Section 713.17*.

Installation staple patterns shall be clearly marked on the turf reinforcement mattings with environmentally safe paint. All mats shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

The erosion control blanket shall be the Tensar-North American Green SC150BN, or equivalent. The SC150BN erosion control blanket shall have the following physical properties:

Material Content

Matrix	70% Straw Fiber (0.35 lb/yd ²) (0.19 kg/m ²) 30% Coconut Fiber (0.15 lb/yd ²) (0.08 kg/m ²)
Netting	Top – Leno woven 100% biodegradable jute (9.35 lb/1,000 ft ² [4.5 kg/100 m ²] approximate weight) Bottom – 100% biodegradable organic jute (7.7 lbs/1,000 ft ² [3.76 kg/100 m ²] approximate weight)
Thread	Biodegradable

TEMPORARY WETLAND CROSSING (DRAG LINE MAT)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.1, Practice 103). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of placing wooden drag line mats beneath the tread of heavy machinery to reduce the impact of the machinery on the wetland or tributaries.

Location: Drag line mats shall be used in wetland locations indicated on the plans. (Only useful if water is less than 6" deep). Drag line mats can also be used in areas to cross tributaries if machinery needs assistance over crossings.

Materials: One mat shall consist of 5 pieces of 20' long, 12" x 12" treated wooden beams cabled together. At least four drag line mats shall be needed.

Installation: Two 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. Operator then drives onto mats in front of the machine and uses the boom to lift the two mats behind the machine and places them up in front of the mats the machine is on. This process continues until the operator reaches the final destination.

Measurement and Payment: This work shall be paid for at the contract unit price per foot for TEMPORARY WETLAND CROSSING which price shall be payment in full for constructing the mats as specified including all materials, labor, and equipment. Removal and disposal of mats off-site after use shall be considered incidental to this item.

RIPRAP BANK PROTECTION

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.5, Practice 510 and Section 5.10, Practice 1002). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description:

This work shall consist of covering of a portion of a channel bank with a layer of stone at locations shown on the plans to protect streambank from erosion. When completed, the worked section shall approximate the natural slope of the channel bank. All work shall be performed within the existing 75-foot Drainage Board easement.

Access: Access to and within the work site shall be within the 75' drainage easement and/or within the public right-of-way. Care shall be taken to limit tree removal (for the purpose of gaining access to the work site) to an absolute minimum. Access shall not cross a waterway or traverse a wetland as indicated on the jurisdictional wetland map, unless pads are used as specified in Practice 103, Temporary Wetland Crossing.

Materials: Materials shall consist of revetment or hand-laid riprap, preferably from local sources. Geotextile fabric or sand/gravel layer should be used for stabilization under all permanent riprap installations.

Site Preparation: This work shall include the removal of brush, trees, stumps and other debris on the slope to be dressed. The material removed shall be disposed of by a method approved by the Lake County Surveyor's Office.

Excavation and Slope Compaction: This work shall include excavation, grading/flattening of the slope and compacting the slope. Excavation shall be deep enough to accommodate the depth of filter and riprap. Slopes steeper than 2:1 (1V: 2H) shall be flattened so stone material will not become displaced. Contractor shall cut a keyway at base of slope to reinforce the toe; keyway depth should be 1.5 times the design thickness of the riprap and extend a horizontal distance equal to the design thickness (see Typical Section). Foundation toe must be properly reinforced to prevent undercutting or slumping. The excavated/prepared slope as well as any fill material shall be proposed compacted to density of surrounding natural soil before the filter and the riprap are placed.

Placement of Riprap: This work shall include the placement of filter and the riprap on a prepared slope. Contractor shall first place geotextile fabric on the slope in accordance with manufacturer's guidelines. The contractor shall spread the well-graded aggregate in a uniform layer at 18 inches in depth.

Riprap shall be placed to full thickness in 1 operation. Smaller rock shall be placed in voids to form a dense, uniform, well-graded mass. Some hand placement of material will most likely be necessary. The contractor shall blend the riprap surface smoothly with the surrounding area to eliminate protrusions or overfalls. Riprap may be either hand-placed or

The blanket shall be provided in rolls 6.7 ft wide by 108 ft long. The weight shall be 52 lbs \pm 10%.

The erosion control blanket shall be installed in accordance with the manufacture's recommendations. Where necessary, check slots shall be cut for any stumps or objects to remain that protrude from the ground surface.

Method of Measurement: This work will be measured in place and the area computed in square yards.

Basis of Payment: The work will be paid for at the contract unit price per square yard for EROSION BLANKET (COMMON), which price shall constitute full compensation for all labor, materials and equipment necessary to complete the work as specified.

MULCHED SEEDING

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.11, Practice 1102). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of the application of seeding, plant residues or other suitable material to disturbed soil surface areas.

Location: Top of spoil pile and other areas disturbed by machinery, and bank restoration.

Materials/Installation: This work shall be in accordance with Section 621 of the Indiana Department of Transportation Standard Specifications, current edition, except the seed mixture.

Seed mixtures shall be as follows:

<u>Common Name</u>	<u>Botanic Name</u>	<u>Seeding Rate</u>
<u>Banks and Slopes (Stabilizing Matrix Species)</u>		
Big Bluestem	Andropogon gerardii	5 lb/ac
Brown Fox Sedge	Carex vulpinoidea	0.25 lb/ac
Canada Wild Rye	Elymus canadensis	5 lb/ac
Streambank Rye	Elymus riparius	1 lb/ac
Silky Wild Rye	Elymus vilosus	1 lb/ac
Virginia Wild Rye	Elymus virginicus	3 lb/ac
Torrey's Rush	Juncus torreyi	0.01 lb/ac
Evening Primrose	Oenothera biennis	0.25 lb/ac
Switch Grass	Panicum virgatum	1 lb/ac
Indian Grass	Sorghastrum natans	5 lb/ac
Prairie Cord Grass	Spartina pectinata	0.01 lb/ac
Blue Vervain	Verbena hastate	1 lb/ac

Measurement and Payment: This work shall be paid for at the contract unit price per acre for MULCHED SEEDING which price shall be payment in full for constructing this item as specified, including all materials, labor, and equipment.

SILT FENCING

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.1, Practice 105). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: Temporary barrier of entrenched geotextile fabric stretched across and attached to supporting post used to intercept sediment - laden runoff from drainage areas of disturbed soil.

Location: Along creek/ditch side of spoil piles.

Materials/Installation: This work shall be in accordance with Practice 105 as referenced above and with Section 205 of the Indiana Department of Transportation Standard Specifications, current edition.

Measurement and Payment: This work shall be paid for at the contract unit price per foot for SILT FENCE which price shall be for constructing and removing this item as specified, including all materials, labor and equipment necessary to perform this work. Removal of silt fence is required when the project is complete and the disturbed areas have been stabilized, and will be considered incidental to the cost of the item.

SUPPLEMENTAL BID PROPOSAL FORM (TO BE ATTACHED AND MADE PART OF FORM 96)

PROJECT: CADY MARSH DITCH COLFAX TO ROSS (Sta. 193+25 to Sta. 233+50) – 2016

The undersigned, having familiarized himself/herself/themselves with local contract documents, comprised of the following:

1. Project documents for the project known as CADY MARSH DITCH COLFAX TO ROSS (Sta. 193+25 to Sta. 233+50) – 2016, 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	Qty.	Unit Price	Total
1	Log Jam Removal (Clearing and Snagging) STA 193+25 to 206+25 = 1,300 LFT STA 206+75 to 223+50 = 1,675 LFT	LFT	2,975		
2	Channel Bottom Dipping (Sediment Removal) STA 193+25 to 206+25 = 1,300 LFT (1,300')(1.5' avg.)(16' avg.) = (31,200 cf)/27 = 1,156 CY STA 206+75 to 233+50 = 1,675 LFT (2,650')(1.0' avg.)(14' avg.) = (37,100 cf)/27 = 1,374 CY	CY	2,530		
3	Temporary Wetland Crossing (Drag Line Mat) STA 194+00 to 201+00 = 700 LFT	LFT	700		
4	Riprap Bank Protection STA 206+00 to 206+20 (Right/South Bank) = 20 LF (20')(50' avg.)(1.5') = 100 TON STA 209+50 (3 Outfalls on Right/South Bank) = 30 LF (30')(10' avg.)(1.5') = 30 TON STA 211+25 to 211+35 (Right/South Bank) = 10 LF (10')(20' avg.)(1.5') = 20 TON STA 217+75 to 218+00 (Right/South Bank) = 25 LF (25')(30' avg.)(1.5') = 75 TON	TON	225		

SUPPLEMENTAL BID PROPOSAL FORM (TO BE ATTACHED AND MADE PART OF FORM 96)
 PROJECT: CADY MARSH DITCH COLFAX TO ROSS (Sta. 193+25 to Sta. 233+50) – 2016

Item No.	Description and Calculation	Unit	Qty.	Unit Price	Total
5	Erosion Blanket (Common) Spoil Piles STA 201+00 to 206+25 = 525 LFT $(525')(13') = (6,825 \text{ sf})/9 = 759 \text{ SY}$ STA 206+75 to 233+25 = 2,650 LFT $(2,650')(13') = (34,450 \text{ sf})/9 = 3,828 \text{ SY}$	SY	4,587		
6	Mulched Seeding (<i>stabilized matrix species mix</i>) Spoil Piles STA 201+00 to 206+25 = 525 LFT $(525')(13') = (6,825 \text{ sf})/43,560 = 0.16 \text{ AC}$ STA 206+75 to 233+25 = 2,650 LFT $(2,650')(13') = (34,450 \text{ sf})/43,560 = 0.79 \text{ AC}$	AC	0.95		
7	Silt Fence STA 201+00 to 206+25 = 525 LFT STA 206+75 to 233+50 = 2,650 LFT	LFT	3,175		
Total Bid Price		\$			

BIDDERS PROPOSAL FOR MAKING ENTIRE IMPROVEMENT

\$ _____
 (WORDS)

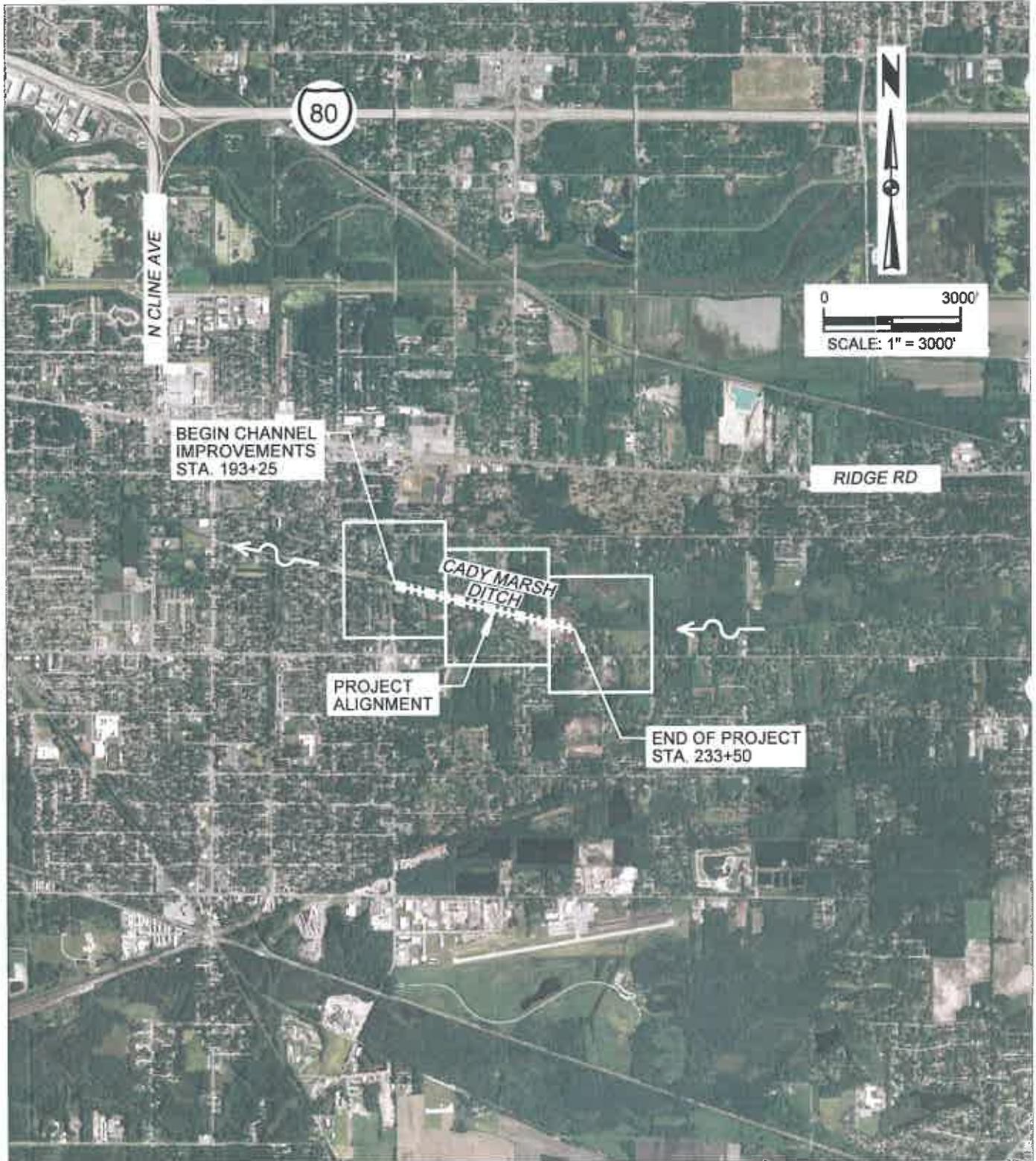
This proposal submitted this _____ day of _____, 2016.

Corporate Name: _____

Address: _____

By: _____

Title: _____



NOTE:
 SPOIL PILES SHALL BE PLACED BEHIND INSTALLED SILT FENCE AND SEEDED AND BLANKETED AS SOON AS POSSIBLE. SPOIL PILES CANNOT BE PLACED INSIDE WETLAND AREAS. EXCAVATION SPOILS WITHIN WETLAND AREA SHALL BE TAKEN TO AN UPSTREAM NON-WETLAND AREA AND PLACED BEHIND INSTALLED SILT FENCE BARRIER OR HAULED OFFSITE TO A LAKE COUNTY APPROVED LOCATION.

LEGEND

- 50+00 DITCH ALIGNMENT W/STATIONING
- WETLAND AREA
- ISOLATED AREA OF EROSION
- LEGAL DRAIN EASEMENT
- SF SILT FENCE

C:\cline\163169_Colfax to Ross_VIC MAP.dgn



CHRISTOPHER B. BURKE ENGINEERING, LLC
 One Professional Center
 Suite 314
 Crown Point, Indiana 46307
 (219) 663-3410 FAX: (219) 663-3450

PROJECT:

LAKE COUNTY DRAINAGE BOARD

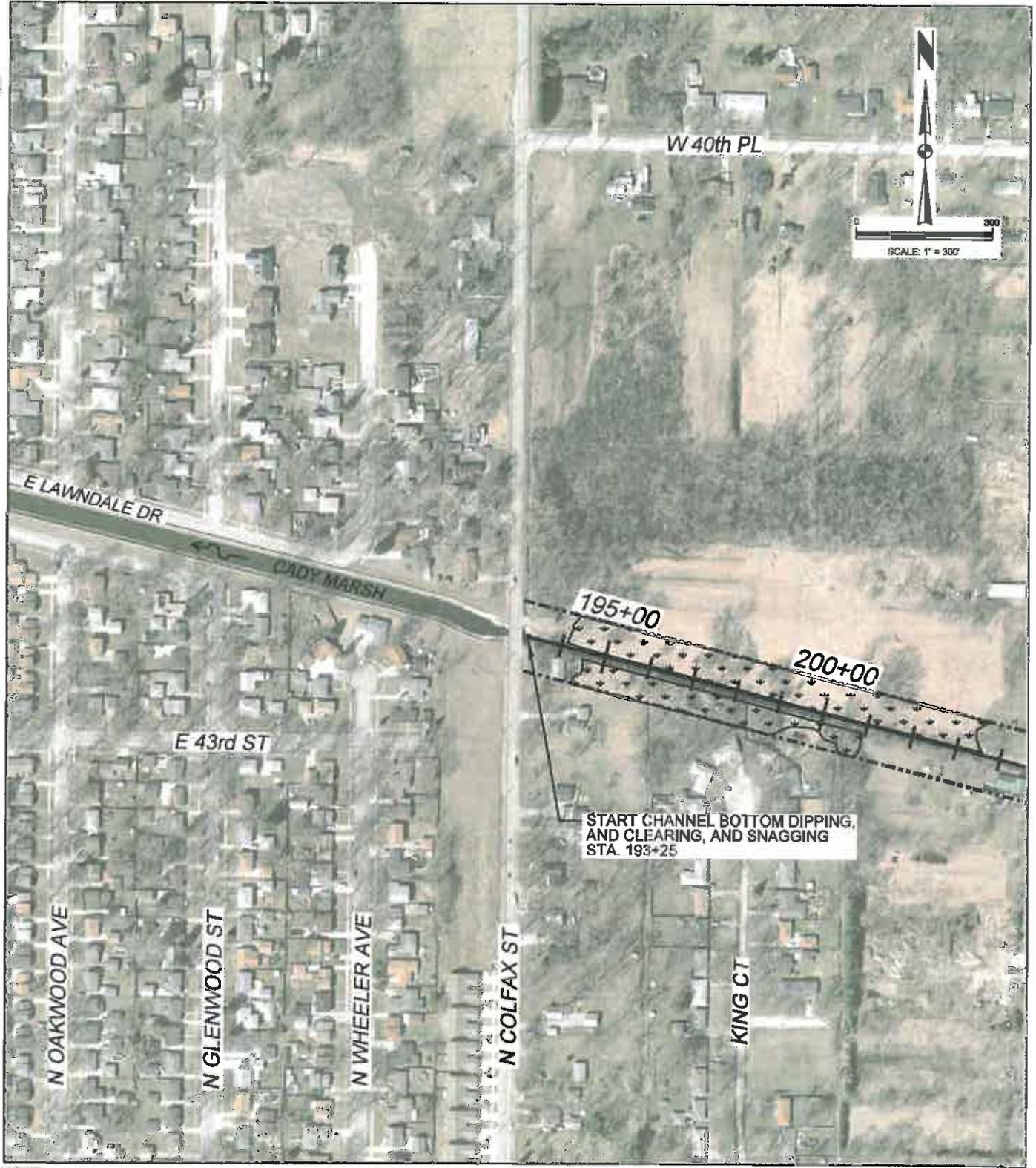
**CADY MARSH - COLFAX TO ROSS - 2016
 AERIAL PLAN VIEW**

PROJECT NO.
R_0930160_02015

SHEET 1 OF 1

DRAWING NO.

1



NOTE:
 SPOIL PILES SHALL BE PLACED BEHIND INSTALLED SILT FENCE AND SEEDED AND BLANKETED AS SOON AS POSSIBLE. SPOIL PILES CANNOT BE PLACED INSIDE WETLAND AREAS. EXCAVATION SPOILS WITHIN WETLAND AREA SHALL BE TAKEN TO AN UPSTREAM NON-WETLAND AREA AND PLACED BEHIND INSTALLED SILT FENCE BARRIER OR HAULED OFFSITE TO A LAKE COUNTY APPROVED LOCATION.

LEGEND

- 50+00 DITCH ALIGNMENT W/STATIONING
- WETLAND AREA
- ISOLATED AREA OF EROSION
- LEGAL DRAIN EASEMENT
- SF SILT FENCE

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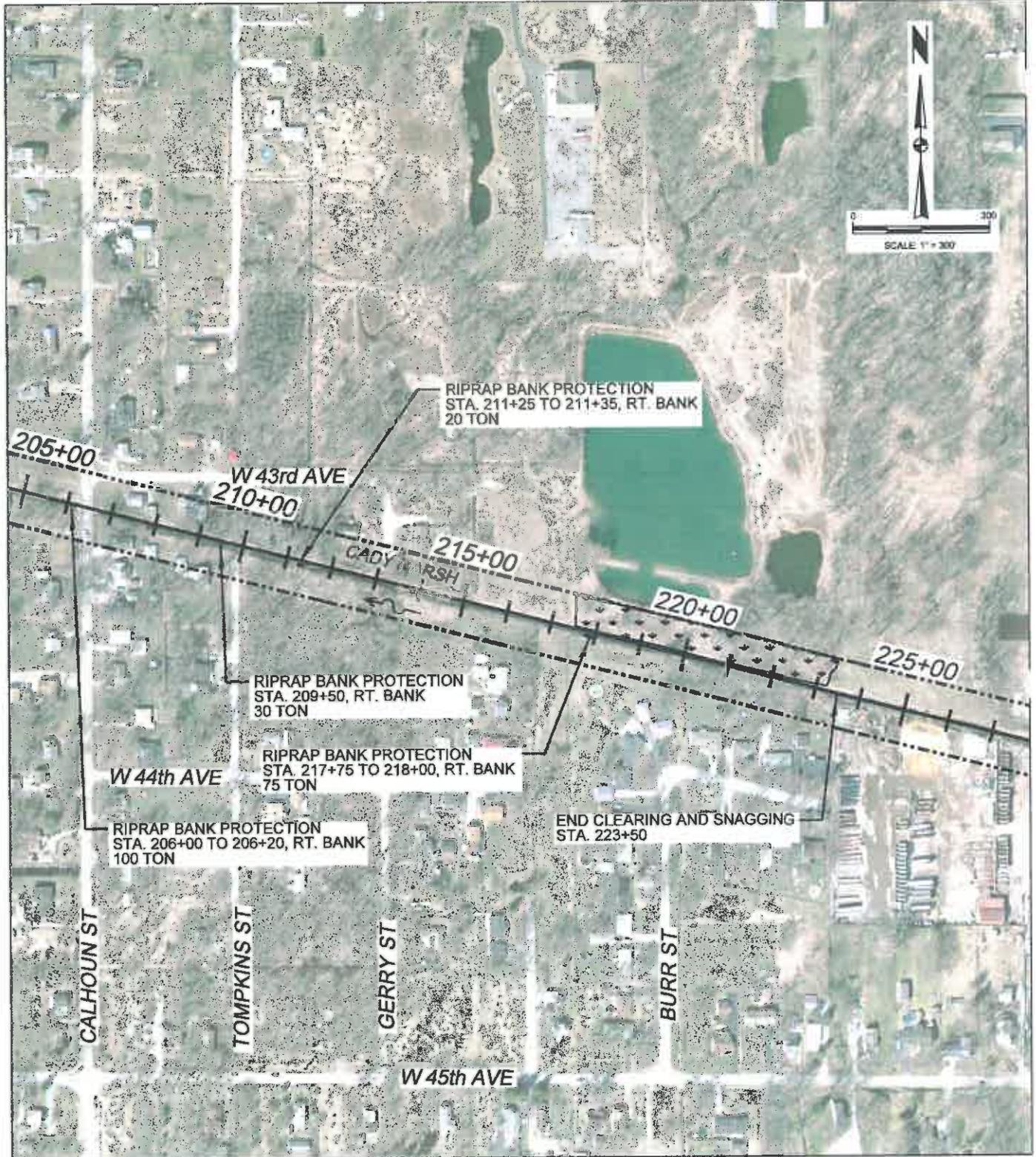
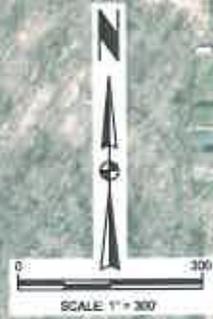
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 Crown Point, Indiana 46307
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PROJECT:

LAKE COUNTY DRAINAGE BOARD

**CADY MARSH - COLFAX TO ROSS - 2016
 AERIAL PLAN VIEW**

PROJECT NO.	R.0830189.02015
SHEET	1 OF 3
DRAWING NO.	1



NOTE:

SPOIL PILES SHALL BE PLACED BEHIND INSTALLED SILT FENCE AND SEEDED AND BLANKETED AS SOON AS POSSIBLE. SPOIL PILES CANNOT BE PLACED INSIDE WETLAND AREAS. EXCAVATION SPOILS WITHIN WETLAND AREA SHALL BE TAKEN TO AN UPSTREAM NON-WETLAND AREA AND PLACED BEHIND INSTALLED SILT FENCE BARRIER OR HAULED OFFSITE TO A LAKE COUNTY APPROVED LOCATION.

LEGEND:

- 50+00 DITCH ALIGNMENT W/STATIONING
- WETLAND AREA
- ISOLATED AREA OF EROSION
- LEGAL DRAIN EASEMENT
- SF SILT FENCE

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PROJECT:

LAKE COUNTY DRAINAGE BOARD

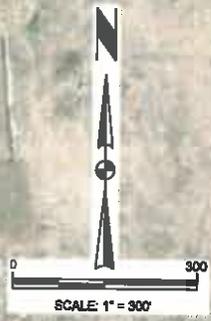
**CADY MARSH - COLFAX TO ROSS - 2016
 AERIAL PLAN VIEW**

PROJECT NO.
R.0930169.02015

SHEET 2 OF 3

DRAWING NO.

2



NOTE:
 SPOIL PILES SHALL BE PLACE BEHIND INSTALLED SILT FENCE AND SEEDED AND BLANKETED AS SOON AS POSSIBLE. SPOIL PILES CANNOT BE PLACED INSIDE WETLAND AREAS. EXCAVATION SPOILS WITHIN WETLAND AREA SHALL BE TAKEN TO AN UPSTREAM NON-WETLAND AREA AND PLACED BEHIND INSTALLED SILT FENCE BARRIER OR HAULED OFFSITE TO A LAKE COUNTY APPROVED LOCATION.

LEGEND	
	50+00 DITCH ALIGNMENT W/STATIONING
	WETLAND AREA
	ISOLATED AREA OF EROSION
	LEGAL DRAIN EASEMENT
	SILT FENCE

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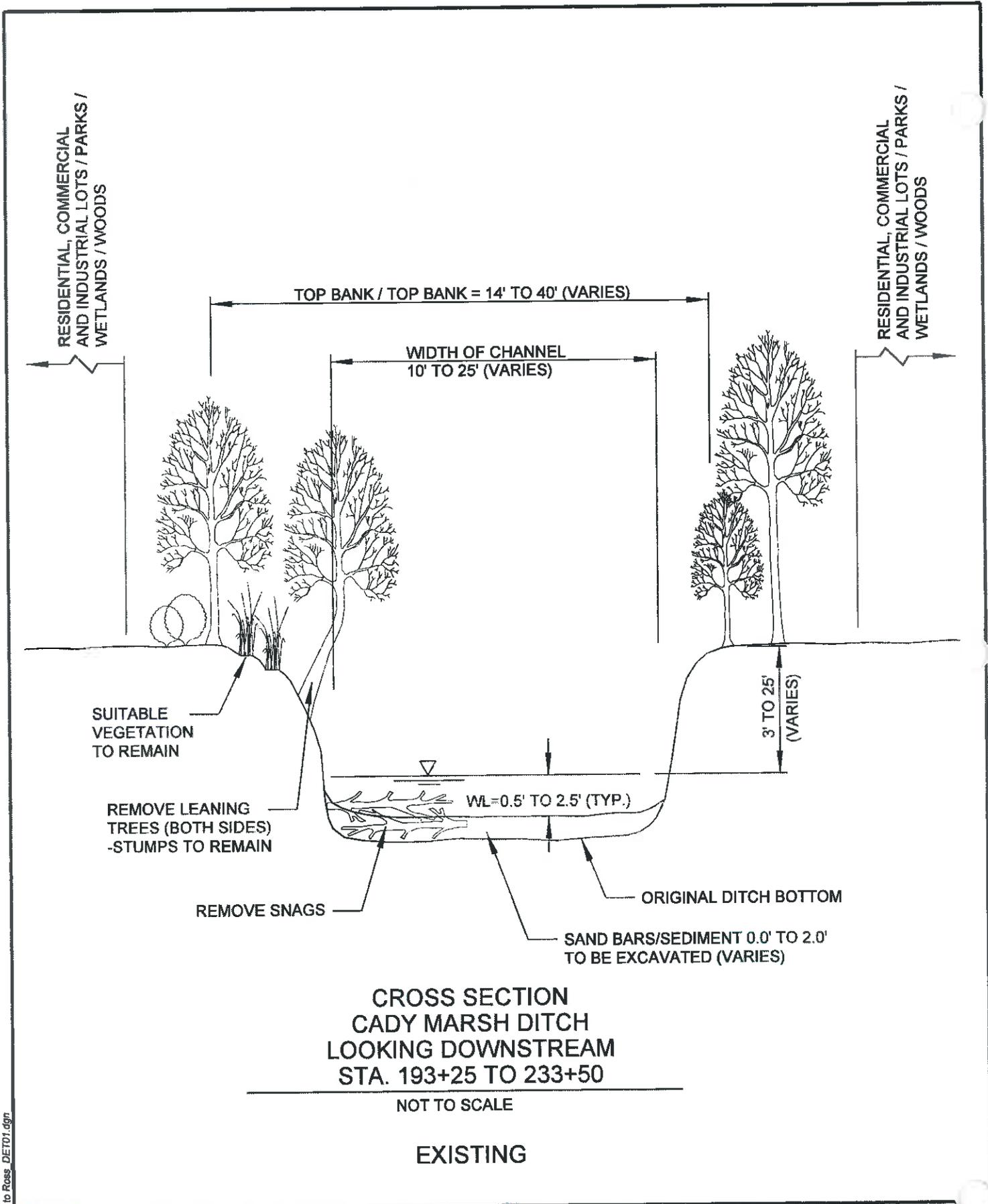
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PROJECT: **LAKE COUNTY DRAINAGE BOARD**
CADY MARSH - COLFAX TO ROSS - 2016
AERIAL PLAN VIEW

PROJECT NO.	R.0830169.02015
SHEET	3 OF 3
DRAWING NO.	3



**CROSS SECTION
CADY MARSH DITCH
LOOKING DOWNSTREAM
STA. 193+25 TO 233+50**

NOT TO SCALE

EXISTING

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PROJECT:

LAKE COUNTY DRAINAGE BOARD

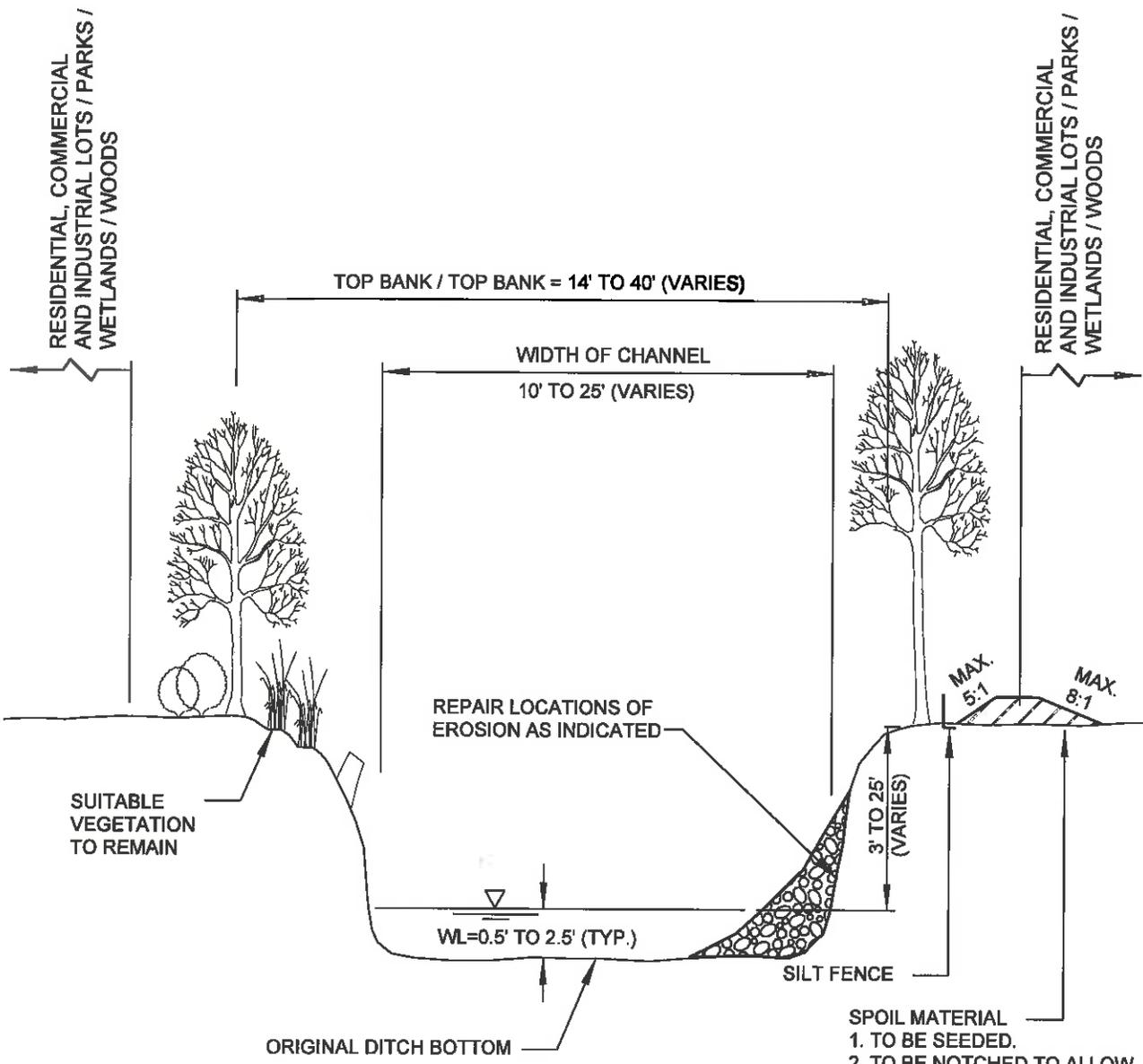
**CADY MARSH - COLFAX TO ROSS - 2016
AERIAL PLAN VIEW**

PROJECT NO.
R.0930186.02015

SHEET 1 OF 2

DRAWING NO.

1



- SPOIL MATERIAL
1. TO BE SEEDED.
 2. TO BE NOTCHED TO ALLOW FOR DRAINAGE.
 3. TO BE PLACED UPLAND OF WETLAND AREAS.

**CROSS SECTION
CADY MARSH DITCH
LOOKING DOWNSTREAM
STA. 193+25 TO 233+50**

NOT TO SCALE

PROPOSED

Ross DET02.dgn

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PROJECT: LAKE COUNTY DRAINAGE BOARD
 CADY MARSH - COLFAX TO ROSS - 2016
 AERIAL PLAN VIEW

PROJECT NO.	R.0830169.02015
SHEET	2 OF 2
DRAWING NO.	2

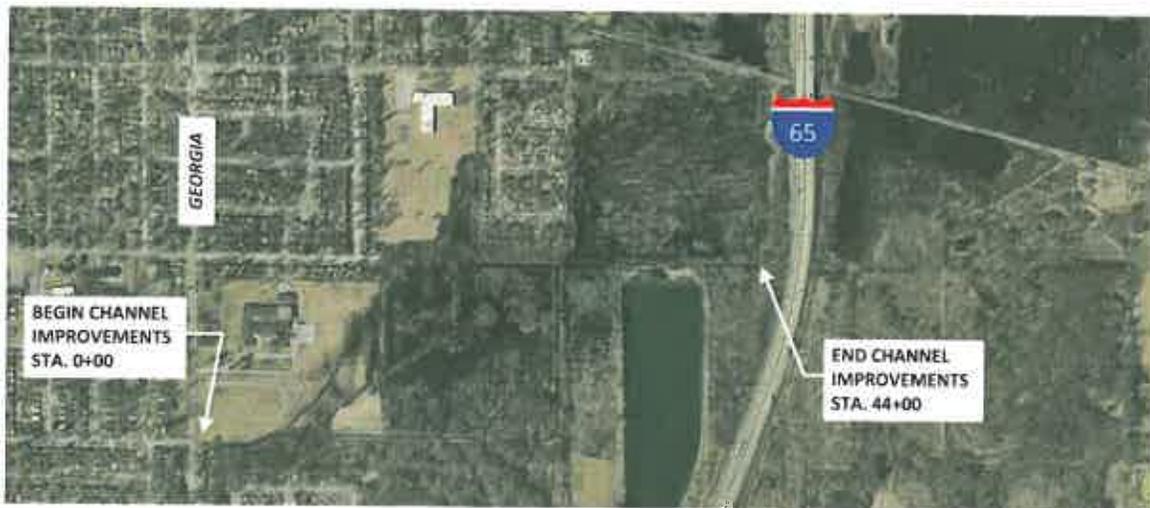
PLANS & SPECIFICATIONS FOR
TURKEY CREEK LATERAL 6 -- 2016
GEORGIA TO I-65

CALUMET TOWNSHIP
LITTLE CALUMET RIVER WATERSHED

PREPARED FOR
LAKE COUNTY DRAINAGE BOARD



LAKE COUNTY SURVEYOR – BILL EMERSON, JR.



CHRISTOPHER B. BURKE ENGINEERING, LLC

One Professional Center, Suite 314 Crown Point, Indiana 46307 Tel (219) 663-3410 Fax (219) 663-3450

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**TURKEY CREEK LATERAL 6 – 2016
GEORGIA TO I-65**

MAINTENANCE PROJECT

SPECIAL INSTRUCTIONS TO BIDDERS

A. GENERAL INFORMATION

1. It is the intention of the Lake County Drainage Board, hereinafter referred to as the Board, to secure bids for maintenance work to be performed on TURKEY CREEK LATERAL 6 – GEORGIA TO I-65 - 2016 hereinafter referred to as the Project, as identified and described herein and in the plans and specifications prepared by Christopher B. Burke Engineering, LLC, hereinafter referred to as the Engineer.
2. All bids for the proposed work shall be submitted on a unit price or lump sum basis, as applicable, and as set forth on the bid proposal form attached herein, all in accordance with the project documents.
3. The Board intends to review all bids for the project and upon final review and determination, award the bid to the successful bidder. Among other considerations, the successful bidder will be determined by the lowest overall total bid as provided in the bid proposal form attached herein. The total quantity of work to be awarded by the Board will be based on the total dollars available at the time of contract award and the respective applicable unit prices and/or lump sums of the successful bidder.
4. The bid proposal form to the Board consisting of 6 pages, as set out hereinafter, shall be attached and submitted with Bid Form 96 and Form 95.

B. BIDDERS INFORMATION

1. It is the responsibility of all project bidders to review all bid documents to ascertain their effect on each bid.
2. It is the responsibility of all project bidders to carefully examine the project site and fully inform himself/herself with the limitations and conditions related to the work covered by his/her bid, and shall include in his/her bid a sum to cover the cost of all such items. It is the purpose and intent of the contract documents that a fully complete job be accomplished. It is the responsibility of each bidder to include all costs necessary to provide all labor, materials and equipment for the portion of

the work bid upon, including incidentals, whether or not specifically called for in the project plans and specifications. Each bidder by making his/her bid represents that he/she has read and understands the bid documents and represents that he/she has visited the site and has familiarized himself/herself with all the conditions under which the work is to be performed. Site access is the sole responsibility of the Contractor. Areas disturbed as part of access to any portion of the project should be properly stabilized and restored to existing conditions. This restoration should be considered incidental to the contract.

3. It is the responsibility of all bidders to contact all utility companies and public and/or private agencies to become familiar with the specific locations of all existing utilities and systems that will affect the work. The successful bidder shall protect all such systems and utilities, including all other improvements which may exist within or adjacent to the work area during the prosecution of the work. All existing improvements, utilities and systems that may be damaged during construction shall be repaired and/or replaced to a condition at least equal to that prior to such damage at no additional expense to the Board. All such companies shall be notified prior to commencement of the work in order that all such lines be located and identified by the affected companies.
4. All inquiries as to the documents, interpretations, substitutions, conflicts, discrepancies, omissions and questions shall be referred to the Engineer, representative of the Board, who in turn will refer same to the Board.
5. All bidders in doubt as to the true meaning of any part of the project documents shall submit to the Engineer, not less than seven (7) days before the bid deadline, a written request for interpretation and clarification.
6. Bidders are responsible for acquiring any and all issued addenda in time to incorporate them into their bid. Each bidder shall enumerate all addenda he has received in his bid.
7. All bidders and their sub-contractors, if any, shall furnish proof, satisfactory to the Board that they are in good standing and are authorized to do business in the State of Indiana and that they are only licensed to perform the work within the County of Lake. All bidders shall furnish a list of their sub-contractors, if any, including name, address and telephone numbers.
8. The County's affirmative action program as adopted by the County of Lake, dated May 31, 1977, a copy of which is on file in the Lake County Auditor's office and the office of the Board of Commissioners of the County of Lake, is a condition of the project documents. The bidder shall

submit, together with his/her bid, in writing, his/her affidavit, that he/she will comply with the County's affirmative action program.

9. It is recommended that all bidders attend any and all pre-bid conferences that may be scheduled by the Board.
10. The Lake County Surveyor and the Engineer, or their designated agents, will perform project supervision and periodic inspections to determine compliance with all project documents, percentages or inspections will include measurements and elevations of the completed work for compliance with the plans and specifications prior to payment recommendations to the Board.
11. The Contractor shall be permitted to submit claims for payment on a monthly basis as the work progresses, subject to a fifteen percent (15%) retainage, all as approved by the Lake County Surveyor and the Engineer. Fifteen percent (15%) of the completed value of the work shall be withheld by the Board for a period of sixty (60) days after the completion of the work and its acceptance by the Lake County Surveyor and the Engineer for the purpose of securing payment of suppliers, laborers and subcontractors, if any.

The Contractor shall be required to furnish a sworn statement of all indebtedness for labor and materials furnished, used or extended for said construction, the amount of due and to become due to each subcontractor and material supplier before issuance of any payment, and final waiver of lien and an affidavit showing all bills, on the issuance of the final payment.

Upon certifications by the Lake County Surveyor and the Engineer, the Board shall pay to the Contractor, on account of the contract, the value of labor and materials incorporated into the work.

12. A bid security in the form of a certified check/cashier's check or a bid bond from an acceptable surety made payable to the Board shall accompany each bid. The bid security shall be in the penal amount of five percent (5%) of the total bid. Bid security shall be forfeited if the bid is withdrawn after closing time on the date for receiving bids. Out of state bidders must submit a certified check of ten percent (10%) of the total bid made payable to the Board.

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.

13. All Contractors, including sub-contractors, shall carry full insurance coverage and certificates of insurance shall be delivered to the Board, upon signing of the contract.
 - a. Workmen's Compensation, as required by applicable Federal and State laws.
 - b. Contractor's Liability, including contractual liability, form of insurance shall be comprehensive general liability and comprehensive automobile liability \$500,000 CSL; for bodily injury, property damage and personal injury, including complete operations broad form; bodily injury and property damage, automobile liability, owned, non-owned and hired.
 - c. In addition to the above, the Contractor shall provide operations and products liability, XCU coverage and \$1,000,000 umbrella liability.
 - d. At all times during the progress of the work, the Contractor shall maintain such insurance as will protect and save harmless the Board, and its agents, from claims under the Workmen's Compensation Act, from any and all other claims for damages for property damage, personal injury and/or death and patent infringement, which may arise from operation under the contract documents, whether such act or omission be by itself or by an employee or sub-contractor or anyone directly or indirectly employed by either of them; and certificates of such insurance as required by the project documents shall be filed with the Board.
 - e. Should the Board suffer any damage, cost or expense, including attorney's fees, in any manner, because of any wrongful act or negligence of the Contractor, or anyone employed by it or a sub-contractor or the assertion of any claim of whatever nature which arises from operation under the contract documents, then the Contractor shall reimburse the Board for any such damage and all reasonable attorney fees and expenses related to such claim and/or reimbursement thereto, all without relief from validation and appraisal laws.

C. RIGHT OF THE BOARD

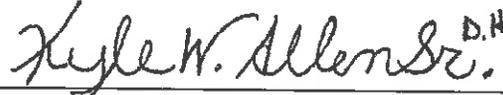
1. The Board reserves the right to issue addenda changing, altering or supplementing the contract documents, at any time prior to the bid deadline.
2. The Board reserves the right to reject any or all bids and to waive any information or irregularity in any bid accepted.
3. The Board reserves the right to approve or reject any sub-contractor submitted by the bidders.
4. The Board reserves the right to award all or individual projects within the scope of work to comply with available funds.

APPROVED THIS 19 DAY OF OCTOBER 20 16

LAKE COUNTY DRAINAGE BOARD


GERRY L. SCHEUB, CHAIRMAN


MICHAEL REPAY, MEMBER


KYLE W. ALLEN, SR., MEMBER

GENERAL INFORMATION

A. INDR, COE AND STATE PERMITS

The Board will procure all necessary permits from the Indiana Department of Natural Resources, the Army Corps of Engineers and the Indiana Stream Pollution Control Board for the performance of the work. All such permits are considered part of the project documents and all work shall be performed in strict compliance with all provisions and conditions therein. In the event discrepancies exist between the project documents and the provisions and conditions of such permits, the Contractor shall immediately notify the Lake County Surveyor and the Engineer to resolve any such discrepancy.

B. CONSTRUCTION METHODS AND STANDARDS

All construction methods, standards and specifications, as adopted by the Board shall govern the performance of the work unless otherwise specified in the project documents.

C. WORK WITHIN EASEMENTS

All work shall be performed within the limits of the existing regulated drain easement for CADY MARSH DITCH and within other access and work easements acquired by the Board as otherwise specified herein.

D. MAINTENANCE OF DRAINWAYS

All construction shall be performed in such a manner that will not interfere with existing drainage of the areas adjacent to the project. All work shall be performed in such a manner that will ensure proper drainage.

E. AUTHORIZATION TO PROCEED

No work shall be performed prior to receipt of "Authorization to Proceed" notification from the Lake County Surveyor.

F. CONTRACTOR'S SCHEDULE

The Contractor will be requested to attend a pre-construction conference to be scheduled by the Lake County Surveyor at which time the Contractor will be required to submit a construction schedule to the Lake County Surveyor prior to commencement of the work.

ATTACHMENT A

TECHNICAL SPECIFICATIONS

FOR

TURKEY CREEK LATERAL 6 – 2016
GEORGIA TO I-65

LAKE COUNTY, INDIANA

LAKE COUNTY DRAINAGE BOARD

GERRY L. SCHEUB, CHAIRMAN
MICHAEL REPAY, MEMBER
KYLE W. ALLEN, SR., MEMBER

LOGJAM REMOVAL (CLEARING AND SNAGGING)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.4, Practices 401 and 402). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of removing accumulations of logs, root wads, beaver dams, trees in danger of falling into the stream or obstructing the flow, and other debris that span the waterway using hand-operated and/or heavy equipment from the side of the channel without disturbing the ditch banks. All work shall be performed within the existing 75-foot Drainage Board easement.

Access: Access to and within the work site shall be within the 75' drainage easement. Care shall be taken to limit tree removal (for the purpose of gaining access to the work site) to an absolute minimum. Access shall not cross a waterway or traverse a wetland as indicated on the jurisdictional wetland map, unless pads are used as specified in Practice 103, Temporary Wetland Crossing.

Equipment: Hand-operated equipment, such as axes, chain saws, and portable winches shall be used for removal of obstructions, unless determined impracticable. Where heavy equipment is necessary for removal of obstructions, only suitable equipment not equipped for excavation such as small tractors, backhoe equipped with a hydraulic thumb, bulldozer with its blade up, or a log skidder shall be used.

Removal of Trees, Tree Parts, and Foreign Material: The Contractor shall cut, relocate and remove from the floodplain and/or wetlands, any free logs or affixed logs, including foreign material, that are crossway in the channel. Logs shall be removed with minimal damage to vegetation and placed outside of wetlands. Limits of jurisdictional wetlands are shown on the plans and copies of maps showing floodway limits are available at the Office of the Lake County Surveyor. Isolated or single logs that are embedded, lodged, or rooted in the channel, and which do not span the channel or cause flow problems, shall not be removed, unless they are associated with or in close proximity to larger obstructions, or they pose a hazard to navigation. Severely damaged, dead, leaning or other trees, which are in immediate danger of falling into the waterway, shall be cut and removed. **The root system and stump of the tree shall be left in place.** Stumps shall be cut as low as possible and parallel with the slope of the bank but in no case higher than twelve inches, unless authorized by the County Surveyor's Office. Stump splinters shall also be cut off. It shall be the contractor's responsibility to walk the site and estimate the size and number of these trees to be removed. Cut stumps shall be treated with herbicide as soon as possible after cutting, preferably less than 2 hours. Stumps should be saturated, especially in the cambial area. Cut stumps shall be treated with Garlon 3A or approved equal but Tordon will not be allowed.

Removed Tree and Tree Parts: All trees, logs and other tree parts cut, broken, and/or removed by the contractor shall be disposed of off-site unless other written arrangements

have been made with the adjacent landowner and approved by the Lake County Surveyor.

The removed trees and brush may be mulched (chipped) and spread on top of the ditch bank, outside of the floodway limits, in a manner approved by the Lake County Surveyor's office. If the contractor chooses to remove materials from the site, the materials shall be disposed of by the contractor in an approved manner at an approved disposal site, all of which must be approved by the Lake County Surveyor's office.

Measurement and Payment: This work shall be paid for at the contract unit price per foot for LOGJAM REMOVAL (CLEARING AND SNAGGING) which price shall include all cutting, relocation and removing of trees, tree parts and foreign material, including disposal and all other items necessary to complete the work to the satisfaction of the Lake County Surveyor.

CHANNEL BOTTOM DIPPING (SEDIMENT REMOVAL)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.6, Practice 601). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of dipping, dredging, and/or removing sediment from the channel bottom with a bucket from one side of the channel without disturbing the ditch banks. **All work adjacent to wetland areas shall be performed from the bank opposite of the wetland area or in cases where wetlands are on both sides of the ditch, drag line mat must be used.** All work shall be performed within the existing 75-foot Drainage Board easement. The work shall also include the removal of sediment from identified culverts within the regulated drain.

Excavation: The contractor shall excavate the low flow channel below the existing flow line to the channel bottom as shown on the typical sections. Cross-section geometry should, in general, be trapezoidal with positive grade. Side slopes of excavated low flow area should be cut away from the edge of water so as not to compromise channel bank stability and shall not exceed a maximum slope of 2:1 (1V: 2H). A minimum twenty- (20) foot longitudinal transition shall be provided from the full-cut excavated area to the undisturbed ditch bottom.

Spoil Material: Spoil material shall be disposed of adjacent to the excavated area unless other written arrangements have been made with the adjacent landowner and approved by the Lake County Surveyor. Spoil shall be placed landward of the channel bank a distance of ten feet (or more, as needed to stay outside of the floodway limit) to allow for future maintenance access. Spoil shall be leveled to have a foreslope of 5:1 (1V: 5H) or flatter so as not to severely impact stream system and applied erosion control measures. From the maximum height, the spoil shall have an 8:1 (1V: 8H) back slope to existing grade. Grading of spoil material shall coincide with adjacent stream overbank topography. Spoil piles shall be cut (notched) to allow for positive drainage from adjacent properties.

Spoil material shall not be placed in the floodway or in the wetlands. Limits of jurisdictional wetlands are shown on the plans and copies of maps showing floodway limits are available at the Office of the Lake County Surveyor.

Measurement and Payment: This work shall be paid for at the contract unit price per cubic yard for CHANNEL BOTTOM DIPPING (SEDIMENT REMOVAL) which price shall include all excavation (including any sediment removal from within culverts), spoil disposal, and all other items necessary to complete the work to the satisfaction of the Lake County Surveyor.

EROSION BLANKET (COMMON)

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.11, Practice 1104). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of furnishing all labor, materials, tools and equipment necessary to place EROSION BLANKET (COMMON) on spoil piles or as directed by the Engineer.

The erosion control blanket shall be a machine-produced mat of 70% straw/30% coconut fiber matrix incorporated into a two-dimensional biodegradable jute mat. The netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands to form an approximate 0.50 x 1.0 inch (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread.

The mat shall meet Type 3.B specification requirements established by the Erosion Control Technology Council (ECTC) Specification and the U.S. Department of Transportation, Federal Highway Administration's (FHWA) *Standard Specifications For Construction of Roads and Bridges on Federal Highway Projects, FP-03 2003 Section 713.17*.

Installation staple patterns shall be clearly marked on the turf reinforcement mattings with environmentally safe paint. All mats shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

The erosion control blanket shall be the Tensar-North American Green SC150BN, or equivalent. The SC150BN erosion control blanket shall have the following physical properties:

Material Content

Matrix	70% Straw Fiber (0.35 lb/yd ²) (0.19 kg/m ²) 30% Coconut Fiber (0.15 lb/yd ²) (0.08 kg/m ²)
Netting	Top – Leno woven 100% biodegradable jute (9.35 lb/1,000 ft ² [4.5 kg/100 m ²] approximate weight) Bottom – 100% biodegradable organic jute (7.7 lbs/1,000 ft ² [3.76 kg/100 m ²] approximate weight)
Thread	Biodegradable

The blanket shall be provided in rolls 6.7 ft wide by 108 ft long. The weight shall be 52 lbs \pm 10%.

The erosion control blanket shall be installed in accordance with the manufacture's recommendations. Where necessary, check slots shall be cut for any stumps or objects to remain that protrude from the ground surface.

Method of Measurement: This work will be measured in place and the area computed in square yards.

Basis of Payment: The work will be paid for at the contract unit price per square yard for EROSION BLANKET (COMMON), which price shall constitute full compensation for all labor, materials and equipment necessary to complete the work as specified.

MULCHED SEEDING

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.11, Practice 1102). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: This work shall consist of the application of seeding, plant residues or other suitable material to disturbed soil surface areas.

Location: Top of spoil pile and other areas disturbed by machinery, and bank restoration.

Materials/Installation: This work shall be in accordance with Section 621 of the Indiana Department of Transportation Standard Specifications, current edition, except the seed mixture.

Seed mixtures shall be as follows:

<u>Common Name</u>	<u>Botanic Name</u>	<u>Seeding Rate</u>
<u>Banks and Slopes (Stabilizing Matrix Species)</u>		
Big Bluestem	Andropogon gerardii	5 lb/ac
Brown Fox Sedge	Carex vulpinoidea	0.25 lb/ac
Canada Wild Rye	Elymus canadensis	5 lb/ac
Streambank Rye	Elymus riparius	1 lb/ac
Silky Wild Rye	Elymus vilosus	1 lb/ac
Virginia Wild Rye	Elymus virginicus	3 lb/ac
Torrey's Rush	Juncus torreyi	0.01 lb/ac
Evening Primrose	Oenothera biennis	0.25 lb/ac
Switch Grass	Panicum virgatum	1 lb/ac
Indian Grass	Sorghastrum natans	5 lb/ac
Prairie Cord Grass	Spartina pectinata	0.01 lb/ac
Blue Vervain	Verbena hastata	1 lb/ac

Measurement and Payment: This work shall be paid for at the contract unit price per acre for MULCHED SEEDING which price shall be payment in full for constructing this item as specified, including all materials, labor, and equipment.

SILT FENCING

General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.1, Practice 105). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.

Description: Temporary barrier of entrenched geotextile fabric stretched across and attached to supporting post used to intercept sediment - laden runoff from drainage areas of disturbed soil.

Location: Along creek/ditch side of spoil piles.

Materials/Installation: This work shall be in accordance with Practice 105 as referenced above and with Section 205 of the Indiana Department of Transportation Standard Specifications, current edition.

Measurement and Payment: This work shall be paid for at the contract unit price per foot for SILT FENCE which price shall be for constructing and removing this item as specified, including all materials, labor and equipment necessary to perform this work. Removal of silt fence is required when the project is complete and the disturbed areas have been stabilized, and will be considered incidental to the cost of the item.

SUPPLEMENTAL BID PROPOSAL FORM (TO BE ATTACHED AND MADE PART OF FORM 96)

PROJECT: TURKEY CREEK LATERAL 6 – GEORGIA TO I-65– 2016

The undersigned, having familiarized himself/herself/themselves with local contract documents, comprised of the following:

1. Project documents for the project known as TURKEY CREEK LATERAL 6, GEORGIA TO I-65 – 2016, Little Calumet River Watershed, Lake County, In.

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+00 to 44+00 = 4,400 LFT	LFT	4,400		
2	Channel Bottom Dipping (Sediment Removal) - STA 0+00 to 44+00 = 4,400 LFT (4,400)(1' avg.)(20' avg.) = 88,000cf / 27 = 3,259 CY	CY	3,259		
3	Erosion Control Blanket (Common) Spoil Piles STA 0+00 to 44+00 = 4,400 LFT (4,400)(13) = 57,200 sf / 9 = 6,356 SY	SY	6,356		
4	Mulched Seeding (stabilizing matrix species mix) Spoil Piles STA 0+00 to 44+00 = 4,400 LFT (4,400)(13) = 57,200 sf / 43,560 = 1.31 AC	AC	1.31		
5	Silt Fence STA 0+00 to 44+00 = 4,400 LFT	LFT	4,400		
Total Bid Price				\$	

SUPPLEMENTAL BID PROPOSAL FORM (TO BE ATTACHED AND MADE PART OF FORM 96)
PROJECT: TURKEY CREEK LATERAL 6 – GEORGIA TO I-65– 2016

BIDDERS PROPOSAL FOR MAKING ENTIRE IMPROVEMENT

\$ _____
(WORDS)

This proposal submitted this _____ day of _____, 2016.

Corporate Name: _____

Address: _____

By: _____

Title: _____



Bill Emerson, Jr.
County Surveyor

9-A-4
10-19-16

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

SPECIFICATIONS FOR
**TURKEY CREEK LATERAL NO. 6
ANNUAL MAINTENANCE FOR
2016 & 2017**



LAKE COUNTY DRAINAGE BOARD

Gerry Scheub, Chairman
Michael C. Repay, Member
Kyle W. Allen Sr., Member

LAKE COUNTY SURVEYOR

Bill Emerson, Jr.

**TURKEY CREEK LATERAL NO. 6 – ANNUAL MAINTENANCE
FOR 2016 AND 2017**

TECHNICAL SPECIFICATIONS

A. GENERAL

1. The Contractor is to remove all overgrowth to eliminate future brush growth on both side slopes. Overgrowth is to be removed by means of mowing (brush hog) or other approved manner as approved by the Lake County Surveyor's Office.
 - Location No. 1 – The width is approximately 75 feet and the length is approximately 150 feet;
 - Location No. 2 – The width is approximately 75 feet and the length is approximately 200 feet;
2. The culvert under the railroad is to be cleared so a normal flow is established and no blockages remain.
3. All work described for this project is to be performed in a manner so as not to adversely affect adjoining land and adjacent property owners along the ditch.
4. In areas where erosion may occur, native materials shall be applied, compacted, fertilized and seeded.
5. In areas of severe erosion, revetment riprap stone (or approved equal) shall be placed.
6. In areas devoid of vegetative growth, grass seed shall be applied.
7. Any trees, snags, etc. in the ditch shall be removed and disposed of in an approved manner.
8. Remove excess sediment/sandbars.

The undersigned contractor has carefully inspected the site of the proposed work, and can perform the various items of work stipulated in the above technical specifications. The contract price includes any incidental work that may be necessary to complete the project in accordance with the above technical specifications and provisions. The price for this work shall be computed based on a unit (hourly) rate which includes the cost of all labor, equipment and materials. The unit (hourly) rate shall not exceed a total amount of \$15,000.00 payable for 2016 & 2017.

Contractor Name

Authorized Representative

Address

City

State

Zip

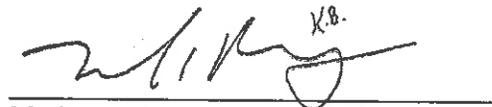
APPROVED THIS 19 DAY OF OCTOBER, 2016

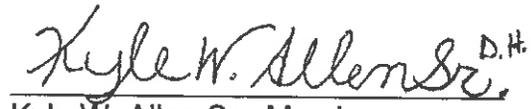
LAKE COUNTY SURVEYOR


Bill Emerson, Jr.

LAKE COUNTY DRAINAGE BOARD


Gerry Scheub, Chairman


Michael C. Repay, Member


Kyle W. Allen Sr., Member

ATTACHMENT B

UNIT (HOURLY) RATE \$ _____

THIS PROPOSAL SUBMITTED THIS _____ DAY OF _____, 2016.

CORPORATE NAME: _____

ADDRESS: _____

BY: _____
Printed Name

Signature

TITLE: _____

PHONE: _____

EMAIL: _____

Turkey Creek Lateral No. 6

Annual Maintenance

Turkey Creek Lateral No. 6

Limits for Annual Maintenance

Norfolk Southern Railroad

Georgia Street

I-65

49th Avenue



Location Map for Annual Maintenance

Norfolk Southern
Railroad

FRONT ROAD
CROSSING

LOCATION NO. 1

LOCATION NO. 2

I-65





9-B-1
10-19-16

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

October 19, 2016

To the Following Contractors:

Via Email Notification

DELTA III INC.
2063 West 1250 South
Hanna, Indiana 46340
ATTN: Mike Eaton
(219) 797-4004
michael.eaton@delta3inc.com

GARIUP CONSTRUCTION
3965 Harrison Street
Gary, Indiana 46401
ATTN: Christine Johnsen
(219) 887-5233
christine.johnsen@gariup.com

AUSTGEN EQUIPMENT
11309 Broadway
Crown Point, Indiana 46307
ATTN: John Dumbsky
(219) 690-1850
john@austgenequipment.com

R.A. OROS INC
8244 Greenwood Avenue
Munster, Indiana 46321
ATTN: Emil Poppa
(219) 838-4942
elpop@comcast.net

WUNDERINK RIVERSIDE FARMS
24121 Whitcomb Street
Lowell, Indiana 46356
ATTN: Mark Wunderink
(219) 552-0266
mwunderink@yahoo.com

ELLAS CONSTRUCTION
9137 Elmwood Drive
Munster, Indiana 46321
ATTN: John Eliopoulos
(219) 746-0983
john@ellasconstruction.com

**RE: Bruce Ditch – Emergency Bank Repair
West of Norfolk Southern Railroad near 10150 219th Avenue
Lowell, West Creek Township, Lake County, Indiana**

The Lake County Surveyor/Lake County Drainage Board has been requested to solicit proposals for the Bruce Ditch – Emergency Bank Repair located north of 10150 219th Avenue and just west of the Norfolk Southern Railroad in West Creek Township. Therefore the Lake County Surveyor has scheduled a **Mandatory Meeting for Monday, October 24, 2016, at 11:00 AM Local Time at the project site. Your presence, or a representative of your company, is Mandatory in order to submit a proposal.**

Please note proposals will only be accepted from contractors attending the Mandatory meeting referenced above. Also indicate the earliest date you can begin work and the time to complete.

Proposals are to be submitted no later than Wednesday, November 16, 2016, by 9:00AM, Local Time to:

**Lake County Surveyor's Office
ATTN: Dan Gossman
2293 North Main Street
Crown Point, Indiana 46307**

Proposals must be received at the above address in a sealed envelope, labeled Bruce Ditch – Emergency Bank Repair. Proposals received after 9:00AM will be returned unopened.

The proposals will be opened at the Lake County Drainage Board meeting after 9:00AM Local time on Wednesday, November 17, 2016.

9-B-1
10-19-16

PLANS & SPECIFICATIONS FOR

**2016 – Bruce Ditch “Emergency Bank Repair”
West of Norfolk Southern Railroad near 10150 219th Avenue,
Lowell, Indiana**

**WEST CREEK TOWNSHIP, LAKE COUNTY, INDIANA
KANKAKEE RIVER WATERSHED**

**PREPARED FOR
LAKE COUNTY DRAINAGE BOARD**



LAKE COUNTY SURVEYOR - BILL EMERSON, JR.

PREPARED BY

LAKE COUNTY SURVEYOR'S OFFICE

Date: October 3, 2016

SPECIFICATIONS
For
Bruce Ditch
“Emergency Bank Repair”
West of Norfolk Southern Railroad near 10150 219th Avenue,
Lowell, West Creek Township, Lake County, Indiana

A. GENERAL INFORMATION

1. It is the intent of the Lake County Surveyor, acting on behalf of the Lake County Drainage Board to seek bid proposals for emergency repairs and stabilization of the south bank in Bruce Ditch.
2. All bid proposals shall be submitted on the **BID PROPOSAL FORM**, as listed by unit price or lump sum price, with contractors' name, address, phone number, signed and dated.
3. Bid proposals shall be submitted to the Lake County Surveyor's Office, Lake County Government Center, 2293 North Main Street, Crown Point, Indiana 46307, and Attention: Dan Gossman, Lake County Drainage Board. **Said proposals are due no later than 9:00 a.m. on November 17, 2016.**
4. No work shall be performed prior to receipt of "Authorization to Proceed" notification from the Lake County Surveyor.
5. The contractor and/or any subcontractors shall furnish proof satisfactory to the Surveyor, that they are in good standing and are authorized to do business in the State of Indiana and that they are duly licensed as a general contractor to perform work within the County of Lake.

B. BIDDER'S INFORMATION

1. It is the bidder's responsibility to review all documents to ascertain their affect on the bid.
2. It is the bidder's responsibility to examine, inspect and attend any on-site field meeting(s), to fully inform themselves with the limitations and conditions related to the work. Any special conditions and or costs related to executing the work shall be included in the unit cost or lump sum cost on the Bid Proposal Form.
3. All inquires as to the documents, interpretations, substitutions, conflicts, discrepancies, omissions or any other questions, shall be referred to the Lake County Surveyor.
4. All contractors, including subcontractors, shall furnish proof that they carry full insurance coverage and certificates of insurance, along with the following:
 - a. Workmen's compensation, as required by applicable federal and state laws.

- b. Contractor's liability, including contractual liability, form of insurance shall be comprehensive general liability and comprehensive automobile liability \$500,000.00 csl; for bodily injury, property damage and personal injury, including complete operations broad form; bodily injury and property damage, automobile liability, owned, non-owned and hired.
- c. In addition to the above, the Contractor shall provide operations and projects liability coverage and \$1,000,000 umbrella liability.
- d. At all times during the progress of the work, the Contractor shall maintain such insurance as will protect and save harmless the Board, and its agents, from claims under the workmen's compensation act, from any and all other claims for damages for property damage, personal injury and/or death and patent infringement, which may arise from operation under the contract documents, whether such act or omission be by itself or by an employee or subcontractor or anyone directly or indirectly employed by either of them; and certificates such insurance as required by the project documents shall be filed with the Board.
- e. Should the Board suffer any damage, cost or expense, including attorney fees, in any manner, because of any wrongful act or negligence of the Contractor, or anyone employed by it or subcontractor or the assertion of any claim of whatever nature which arises from operation under the contract documents, then the Contractor shall reimburse the Board for any such damage and all reasonable attorney fees and expenses related to such claim and/or reimbursement thereto, all without relief from validation and appraisal laws.

C. ADDITIONAL INFORMATION (SUCCESSFUL BIDDER)

- 1. It shall be the responsibility of the contractor to notify the following:
 - a. Utility and pipeline companies (for locations).
 - b. Affected/adjacent property owners.
 - c. Any other appropriate or affected entities.
- 2. The Contractor shall provide all necessary traffic control and control (barricades) devices, as required, and shall provide ample protection of work area in the ditch from the general public.
- 3. The Contractor shall take any precautions to protect all adjacent improvements, i.e., pavements, curbing, landscaping, sidewalks, etc.
- 4. The continuous flow of Bruce Ditch is to be maintained at all times.
- 5. The Bruce Ditch is a regulated drain and under the joint jurisdiction of the Lake County Surveyor and the Lake County Drainage Board. The existing drain lies in the regulated drain easement that is 75' either side of the top-of-bank of said existing drain (I.C. 36-9-27-33).
- 6. Payment to the Contractor shall be made upon completion and final inspection/acceptance by the County Surveyor.

D. RIGHT OF THE BOARD

1. The Board reserves the right to issue addenda changing, altering or supplementing the contract documents, at any time prior to the bid deadline.
2. The Board reserves the right to reject any or all bids and to waive any information or irregularity in any bid accepted.
3. The Board reserves the right to approve or reject any sub-contractor submitted by the bidders.
4. The Board reserves the right to award all or individual projects within the scope of work to comply with available funds.

TECHNICAL SPECIFICATIONS

A. RIPRAP BANK PROTECTION

1. General Requirements: This work shall be performed as described in detail in the Indiana Drainage Handbook (Section 5.5, Practice 510 and Section 5.10, Practice 1002). A copy of the latest version of the Handbook is available online through the IDNR at <http://www.in.gov/dnr/water/4893.htm>.
2. Description: This work shall consist of covering of a portion of a channel bank with a layer of stone at locations shown on the plans to protect stream-bank from erosion. When completed, the worked section shall approximate the natural slope of the channel bank. All work shall be performed within the existing 75-foot Drainage Board easement.
3. Access: Access to and within the work site shall be within the 75' drainage easement and/or within the public right-of-way. Care shall be taken to limit tree removal (for the purpose of gaining access to the work site) to an absolute minimum. Access shall not cross a waterway or traverse a wetland as indicated on the jurisdictional wetland map, unless pads are used as specified in Practice 103, Temporary Wetland Crossing.
4. Materials: Materials shall consist of revetment or hand-laid riprap, preferably from local sources. Geotextile fabric or sand/gravel layer should be used for stabilization under all permanent riprap installations.
5. Site Preparation: This work shall include the removal of brush, trees, stumps and other debris on the slope to be dressed. The material removed shall be disposed of by a method approved by the Lake County Surveyor's Office.
6. Excavation and Slope Compaction: This work shall include excavation, grading/flattening of the slope and compacting of the slope. Excavation shall be deep enough to accommodate the depth of filter and riprap. Slopes steeper than 2:1 (1V: 2H) shall be flattened so stone material will not become displaced. Contractor shall cut a keyway at base of slope to reinforce the toe; keyway depth should be 1.5 times the design thickness of the riprap and extend a horizontal distance equal to the design thickness (see Typical Section). Foundation toe must be properly reinforced to prevent undercutting or slumping. The excavated/prepared slope as well as any fill material shall

be proposed compacted to density of surrounding natural soil before the filter and the riprap are placed.

7. Placement of Riprap: This work shall include the placement of filter and the riprap on a prepared slope. Contractor shall first place geotextile fabric on the slope in accordance with manufacturer's guidelines. The contractor shall spread the well-graded aggregate in a uniform layer at least 18 inches in depth.
8. Riprap shall be placed to full thickness in 1 operation. Smaller rock shall be placed in voids to form a dense, uniform, well-graded mass. Some hand placement of material will most likely be necessary. The contractor shall blend the riprap surface smoothly with the surrounding area to eliminate protrusions or overfalls. Riprap may be either hand-placed or dumped. Riprap used must be of sized according to INDOT standard specifications and extend at least 12 inches below normal water level to provide habitat for aquatic organisms in the voids.

B. MATERIALS

1. 5 x 90 Revetment Rip Rap.
2. Mirafi 180N 8oz. non-woven geotextile fabric AASHTO MZ88-96 Spec for sub surface drainage Class I and separation Class I or an approved equal material.
3. Backfill shall be clean and compacted.
4. All necessary seeding shall be in accordance with state specifications (Indiana Drainage Handbook, Section 5.11, Practice 1102 and INDOT Standard Specifications, Section 621) and local specifications (Lake County, Indiana Stormwater Technical Standards Manual, CN 125).

C. OTHER CONDITIONS

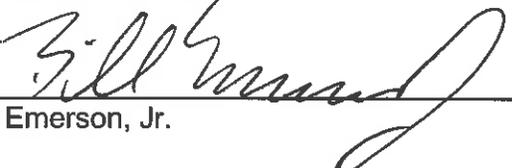
1. All disturbed areas to be restored to equal or better conditions prior to construction.
2. The Contractor shall remove any/all deleterious material from the ditch area and dispose same in an approved site.
3. It shall be the responsibility of the Contractor to fine grade the site to match the existing ground elevations.
4. Excess material generated shall be placed in sites as designated by the property owner.
5. The Contractor will furnish and install any/all erosion protection devices in accordance with IDEM's/SCS Rule No. 5 as applicable for projects of this nature.
6. Any haul routes/roads shall be approved by the Lake County Surveyor. All disturbed areas (routes) shall be restored to prior conditions and seeded, mulched and fertilized in accordance with INDOT Standard Specifications, Section 621 standard seeding specification. Routing may be over subgrade roads with shallow utilities, i.e., existing sanitary/storm sewers, water mains/services, gas and/or telephone cables. It shall be

the responsibility of the contractor to protect/maintain same. Any damages are the responsibility of the contractor.

7. All work described for this project is to be performed in a manner that does not adversely affect adjoining landowners' property.
8. The Surveyor's Office has prepared the plan and these documents with reasonable diligence. However, due to unknowns and unforeseen conditions, modifications may be required. It is the Contractor's responsibility to contact the Surveyor immediately upon any unforeseen developments for resolutions.
9. Any items (materials/installations) that may be insufficient with respect to quantities, payment shall be at the bid proposal unit prices and lump sum prices.

APPROVED THIS 19TH DAY OF OCTOBER, 2016.

LAKE COUNTY SURVEYOR



Bill Emerson, Jr.

ATTEST:

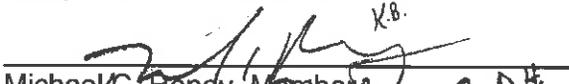


Mary Ellen Kupsik,
Lake County Drainage Board Secretary

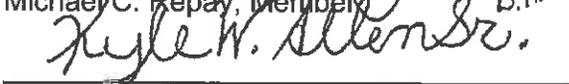
LAKE COUNTY DRAINAGE BOARD



Gerry J. Scheub, Chairman



Michael C. Kepay, Member



Kyle W. Allen Sr., Member

BID PROPOSAL

For Emergency Bank Repair within Bruce Ditch

(West of Norfolk Southern Railroad near 10150 219th Avenue, Lowell, Indiana)

The undersigned, having familiarized (himself/herself/themselves) with the plans and specifications and on-site conditions which comprise the following:

Documents for the project known as the Emergency Bank Repair of the banks along the Bruce Ditch.

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.

AREA 1.

ITEM NO. 1

Remove all debris, vegetation, deleterious material from ditch bottom and haul from site.
Amount: 30 linear feet at \$ _____ /l.f. Equals \$ _____

ITEM NO. 2

Apply Mirafi 180N 8oz. non-woven geotextile fabric AASHTO MZ88-96 Spec for sub surface drainage Class I and separation Class I or an approved equal material. (30'x15')
Amount: 50 sq. yds. at \$ _____ /sq. yd. Equals \$ _____

ITEM NO. 3

Place rip rap over fabric.
Amount: 30 tons at \$ _____ /ton Equals \$ _____

ITEM NO. 4

Restoration/Seeding disturbed areas.
Amount: Lump Sum Equals \$ _____

AREA 2.

ITEM NO. 1

Remove all debris, vegetation, deleterious material from ditch bottom and haul from site.
Amount: 110 linear feet at \$ _____ /l.f. Equals \$ _____

ITEM NO. 2

Apply Mirafi 180N 8oz. non-woven geotextile fabric AASHTO MZ88-96 Spec for sub surface drainage Class I and separation Class I or an approved equal material. (110'x15')
Amount: 185 sq. yds. at \$ _____ /sq. yd. Equals \$ _____

ITEM NO. 3

Place rip rap over fabric.
Amount: 160 tons at \$ _____ /ton Equals \$ _____

ITEM NO. 4

Restoration/Seeding disturbed areas.
Amount: Lump Sum Equals \$ _____

GRAND TOTAL \$ _____

BID PROPOSAL
For Emergency Bank Repair within Bruce Ditch
West of Norfolk Southern Railroad near 10150 219th Avenue,
Lowell, West Creek Township, Indiana

_____ CAN BEGIN THE WORK IN _____ DAYS UPON
[Company Name]

RECEIPT OF AUTHORIZATION TO COMMENCE THE WORK FROM THE LAKE COUNTY
SURVEYOR, WHICH INCLUDES MATERIAL DELIVERY TIME AND COMPLETE THE WORK
WITHIN _____ DAYS, SUBJECT TO WEATHER CONDITIONS.

BID PROPOSAL FORM SUBMITTED THIS _____ DAY OF _____ 2016.

BY: _____
Company Name

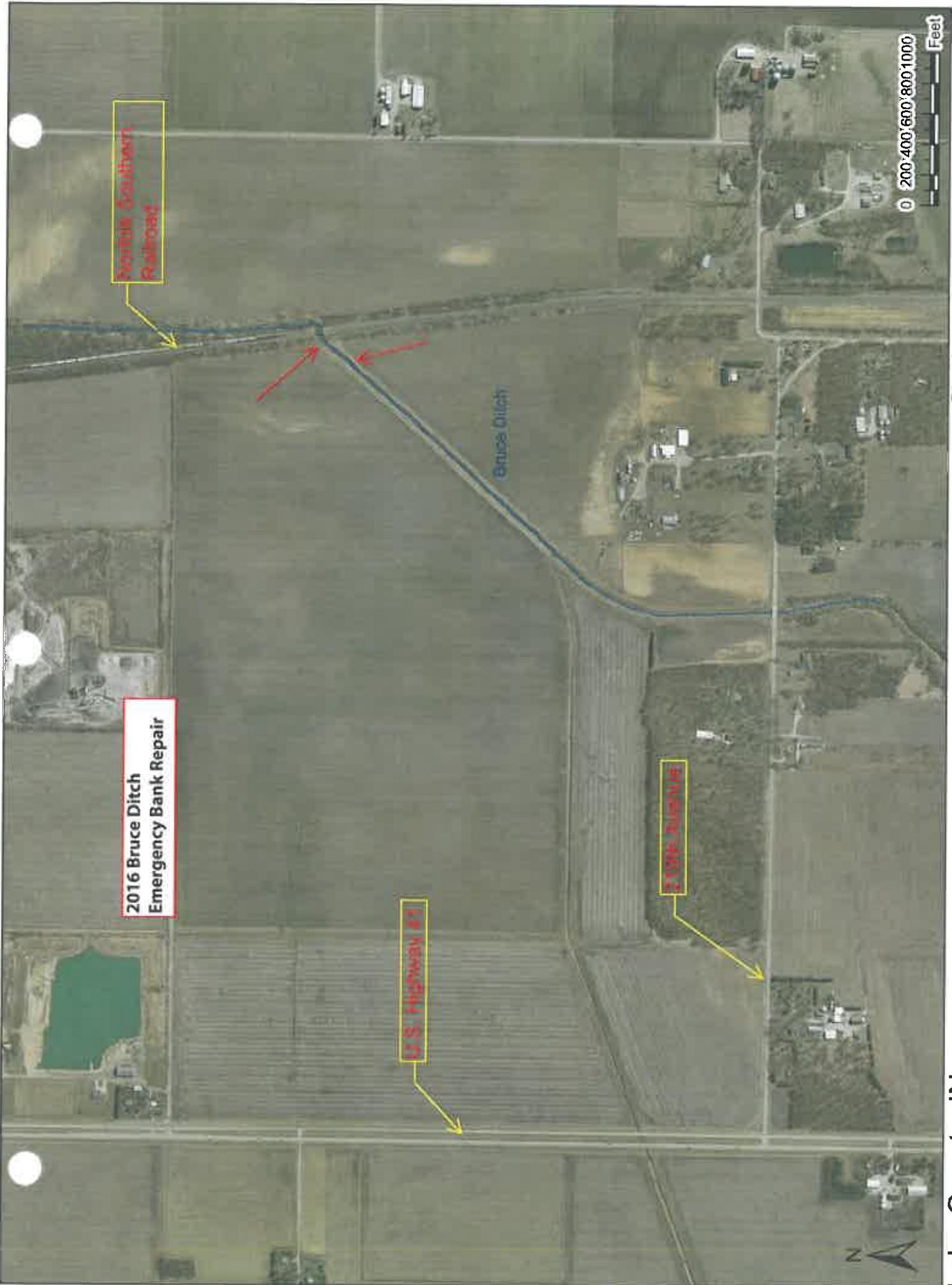
Authorize Signature

Printed Name

Address

Telephone No.

Email



Northern Southern
Railroad

2016 Bruce Ditch
Emergency Bank Repair

U.S. Highway #7

2016 Bruce Ditch

Bruce Ditch

0 200 400 600 800 1000 Feet



Norfolk Southern
Railroad

Property No. 2

Length of 200 ft

PRACTICE 510 STONE RIPRAP

- DESCRIPTION**
- Covering of a portion of a channel bank with a layer of stone that approximates the natural slope of the channel bank. (Note: This practice is also included in the Indiana Erosion Control Handbook.)



Exhibit 510a: Stone Riprap (Source: North Carolina Erosion Control Manual)

PURPOSE	● To protect streambanks from the erosive forces of flowing water.
WHERE APPLICABLE	<ul style="list-style-type: none"> ● On small to medium sized channels and on all character types. ● Generally applicable where flow velocities exceed 6 ft/sec or where vegetative streambank protection is inappropriate. ● Shaded areas. ● Streams where water levels fluctuate. ● Actively eroding banks usually along channel curves or wherever it is desirable to reduce the energy of the water.
ADVANTAGES	<ul style="list-style-type: none"> ● Relatively inexpensive, especially compared to other structural methods such as walls. ● Flexible and resistant to scour. ● Allows for water percolation.
CONSTRAINTS	<ul style="list-style-type: none"> ● Available stone must be able to resist the force of high velocity water flows. ● Not recommended on steep slopes or areas where slope cannot be regraded to 2:1 (1V:2H) or flatter. ● Hand-placed riprap is labor intensive. ● Flooding may wash riprap into stream.

DESIGN AND CONSTRUCTION GUIDELINES

Materials

- Hard, angular and weather-resistant stone having specific gravity of at least 2.5.
- Where available, use local stone. Local stone can often be obtained at lower cost and it also blends better into the existing streambank environment.
- 50% of stone (by weight) must be larger than specified d_{50} and no more than 15% of the pieces (by weight) should be less than 3 inches.
- Geotextile fabric or sand/gravel layer should be used for stabilization under all permanent riprap installations.

Installation

- Remove brush, trees, stumps and other debris.
- Excavate only deep enough for filter and riprap.
- Compact any fill material to density of surrounding natural soil.

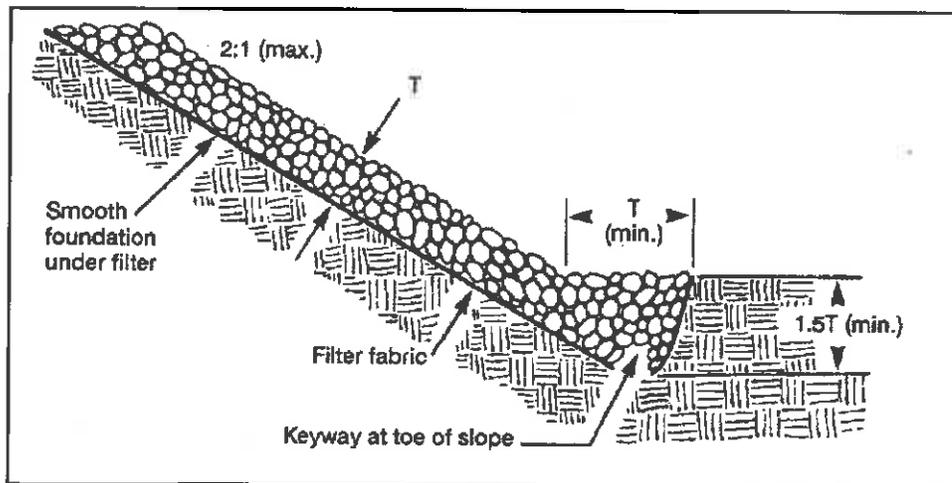


Exhibit 510b: Construction of a riprap bank with toe protection (Source: Indiana Erosion Control Handbook)

- Cut keyway at base of slope to reinforce the toe; keyway depth should be $1\frac{1}{2}$ times the design thickness of the riprap and extend a horizontal distance equal to the design thickness.
- Place geotextile fabric. If using sand/gravel filter, spread the well-graded aggregate in a uniform layer at least 6 inches thick; if 2 or more layers are required, place the layer of smaller gradation first and avoid mixing the layers.
- Add riprap to full thickness in 1 operation.
- Place smaller rock in voids to form a dense, uniform, well-graded mass. Some hand placement of material will most likely be necessary.
- Blend the riprap surface smoothly with the surrounding area to eliminate protrusions or overfalls.
- Riprap may be either hand-placed or dumped.

Special Considerations

- Use the peak 10-year storm discharge for computing the minimum expected (design) velocity.
- Foundation toe must be properly reinforced to prevent undercutting or slumping.
- Slopes steeper than 2:1 (1V:2H) should be flattened so stone material will not become displaced.
- Riprap must be properly graded to prevent stone movement and erosion of the foundation.
- Compact the slopes before placing riprap or stone settlement and displacement may occur.
- Extend riprap sections the entire length between well-stabilized points of the stream channel.
- Riprap used must be of large enough size and extend at least 12 inches below normal water level to provide habitat for aquatic organisms in the voids
- May secure toe using A-Jacks (See Practice 509)

MAINTENANCE

- Inspect periodically for displaced stone material, slumping and erosion at edges (especially downstream or downslope). Properly designed and installed riprap usually requires very little maintenance if promptly repaired.

REFERENCES

Related Practices

- Practice 501 Live Stakes.
- Practice 507 Live Cribwalls.
- Practice 508 Lunkers.
- Practice 512 Gabion Retaining Wall.
- Other Combined Practices.

Other Sources of Information

- Indiana Erosion Control Handbook.
- North Carolina Erosion Control Manual.
- Pennsylvania Streambank Stabilization Guide.
- COE Streambank Guidelines.

Last Print/Revision Date: October 13, 1996

PRACTICE 1102

VEGETATIVE STABILIZATION AND SEEDING

DESCRIPTION ● Stabilization and protection of streambanks with selected vegetation.



Exhibit 1102a: Vegetative Stabilization (Source: North Carolina Erosion Control Manual)

PURPOSE	<ul style="list-style-type: none"> ● To protect streambanks from the erosive forces of flowing water and provide a natural, pleasing appearance. ● To restabilize areas disturbed during construction. ● Shade provided by woody vegetation maintains lower water temperatures and provides wildlife habitat.
WHERE APPLICABLE	<ul style="list-style-type: none"> ● Generally applicable along streams and ditches where bankfull flow velocity does not exceed 5 ft/sec., and soils are erosion resistant. ● Vegetative techniques usually should be incorporated with structural techniques if the bankflow velocity exceeds 5 ft/sec. (See referenced sources.)
ADVANTAGES	<ul style="list-style-type: none"> ● Often less expensive than structural techniques. ● Natural appearance. ● May create or enhance wildlife habitat. ● Self repairing in many cases.
CONSTRAINTS	<ul style="list-style-type: none"> ● May not be applicable in high flow ditches and streams. ● Full stabilization may not be achieved until plants become established. ● Often requires limited but regular maintenance such as burning, and in some situations, herbiciding or even mowing.
DESIGN AND CONSTRUCTION GUIDELINES	<p>Materials</p> <ul style="list-style-type: none"> ● Appropriate plant species selected from following Exhibit 1102b or other referenced sources. Note that not all species listed are suitable for every region or soil. ● Mulch, erosion control blankets, and/or bonded fiber matrix.

Partial Sunlight (Half Day) to Full Sunlight

<u>Common Name</u>	<u>Botanic Name</u>	<u>Plugging</u>	
		<u>Rate On Center</u>	<u>Seeding Rate</u>
<u>Banks and Slopes (Stabilizing Matrix Species)</u>			
Big Bluestem	Andropogon gerardii	18-24"	5 lb/ac
Brown Fox Sedge	Carex vulpinoidea	18-24"	0.25 lb/ac
Canada Wild Rye	Elymus canadensis	18-24"	5 lb/ac
Streambank Rye	Elymus riparius	18-24"	1 lb/ac
Silky Wild Rye	Elymus villosus	18-24"	1 lb/ac
Virginia Wild Rye	Elymus virginicus	18-24"	3 lb/ac
Torrey's Rush	Juncus torreyi	18-24"	0.01 lb/ac
Evening Primrose	Oenothera biennis	18-24"	0.25 lb/ac
Switch Grass	Panicum virgatum	18-24"	1 lb/ac
Indian Grass	Sorghastrum nutans	18-24"	5 lb/ac
Prairie Cord Grass	Spartina pectinata	18-24"	N/A
Blue Vervain	Verbena hastata	18-24"	1 lb/ac

Toe, Lower Banks (Stabilizing Species)

Sweet Flag	Acorus calamus	18-24"	N/A
Water Plantain	Alisma subcordatum	18-24"	N/A
Bluejoint Grass	Calamagrostis canadensis	18-24"	N/A
Creeping Spike Rush	Eleocharis acicularis	18-24"	N/A
Blue Flag Iris	Iris virginica	18-24"	N/A
Torrey's Rush	Juncus torreyi	18-24"	N/A
Switch Grass	Panicum virgatum	18-24"	N/A
Arrowhead	Sagittaria latifolia	18-24"	N/A
Hardstem Bulrush	Scirpus acutus	18-24"	N/A
Chairmaker's Rush	Scirpus americanus	18-24"	N/A
Dark Green Rush	Scirpus atrovirens	18-24"	N/A
River Bulrush	Scirpus fluviatilis	18-24"	N/A
Prairie Cord Grass	Spartina pectinata	18-24"	N/A
Blue Vervain	Verbena hastata	18-24"	N/A

Cover Crops (Hydroseeding, Hand or Machine Planted Species)

Annual Ryegrass	Lolium multiflorum	N/A	60 lb/ac
Perennial Ryegrass	Lolium perenne	N/A	24 lb/ac
Smartweed	Polygonum punctatum	N/A	5 lb/ac
Yellow Coneflower	Ratibida pinnata	18-24"	0.25 lb/ac
Black-Eyed Susan	Rudbeckia hirta	18-24"	0.25 lb/ac

Brush for live stakes, brush mattress, live fascine, branch packings, live cribwall and vegetated geogrid. (North bank may have to be planted by shade-tolerant species.)

Buttonbush	Cephalanthus occidentalis
Silky Dogwood	Cornus amomum
Red-Osier Dogwood	Cornus stolonifera

Exhibit 1102b : Plant species for Vegetative Stabilization (Source: DuPage County Streambank Stabilization Program)

Partial Sunlight (Half Day) to Full Sunlight (continued)

<u>Common Name</u>	<u>Botanic Name</u>	<u>Plugging</u>	
		<u>Rate On Center</u>	<u>Seeding Rate</u>
<u>Brush ... (continued from last page)</u>			
White Willow	Salix alba		
Peach-Leaved Willow	Salix amygdaloides		
Pussy Willow	Salix discolor		
Sandbar Willow	Salix interior		
Black Willow	Salix nigra		
Elderberry	Sambucus canadensis		
<u>Non-Stabilizing Decorative and Screening</u>			
<u>Plants</u>			
Swamp Milkweed	Asclepias incarnata		
Joe-Pye Weed	Eupatorium maculatum		
Spiderwort	Tradescantia ohiensis		
Culver's Root	Veronicastrum virginicum		
Golden Alexanders	Zizia aurea		
<u>Shrubs (Plant sparsely to prevent overshadowing banks)</u>			
Eastern Ninebark	Physocarpus opulifolius		
Arrowwood Viburnum	Viburnum dentatum		
Nannyberry Viburnum	Viburnum lentago		
<u>Trees (Plant lightly to prevent overshadowing banks)</u>			
White Ash	Fraxinus americana		
Green Ash	Fraxinus pennsylvanica		
Quaking Aspen	Populus tremuloides		
Swamp White Oak	Quercus bicolor		
White Cedar	Thuja occidentalis		
Basswood	Tilia americana		
<u>Buffer Zone/Filter Strips</u>			
Big Bluestem	Andropogon gerardii	N/A	5 lb/ac
New England Aster	Aster novae-angliae	N/A	2 oz/ac
Oats*	Avena sativa	N/A	25 lb/ac
Daisy*	Chrysanthemum leucanthemum	N/A	0.25 lb/ac
Chicory*	Cichorium intybus	N/A	0.1 lb/ac
Barley*	Hordeum vulgare	N/A	25 lb/ac
Annual Ryegrass*	Lolium multiflorum	N/A	25 lb/ac
Wild Bergemont	Monarda fistulosa	N/A	0.5 oz/ac
Switch Grass	Panicum virgatum	N/A	1 lb/ac
Yellow Coneflower*	Ratibida pinnata	N/A	0.25 lb/ac

Exhibit 1102b (continued):

Plant species for vegetative Stabilization (Source: DuPage County Streambank Stabilization Program)

Partial Sunlight (Half Day) to Full Sunlight (continued)

<u>Common Name</u>	<u>Botanic Name</u>	<u>Planting Rate On Center</u>	<u>Seeding Rate</u>
<u>Buffer Zone/Filter Strips (continued)</u>			
Black-Eyed Susan*	Rudbeckia hirta	N/A	0.25 lb/ac
Indian Grass	Sorghastrum nutans	N/A	5 lb/ac
Alsike Clover*	Trifolium hybridum	N/A	0.1 lb/ac
Red Clover*	Trifolium pratense	N/A	0.1 lb/ac
Hoary Vervain	Verbena stricta	N/A	0.5 oz/ac

* Transition species to be planted in the outer 5 feet of buffer to blend into existing landscape.

Full Shade

Bank and Slopes

Sideflowering Aster	Aster lateriflorus	18-24"	0.25 lb/ac
Gray Sedge	Carex amphibola	18-24"	N/A
Common Wood Sedge	Carex blanda	18-24"	N/A
Fowl Manna Grass	Glyceria striata	18-24"	0.25 lb/ac

Non-Stabilizing Decorative Plants

Jack-in-the-Pulpit	Arisaema triphyllum	10'	N/A
Green Dragon	Arisaema dracontium	10'	N/A
Turtlehead	Chelone glabra	10'	N/A
Shooting Star	Dodecatheon meadia	10'	N/A
Spotted Jewelweed	Impatiens capensis	10'	N/A
Cardinal Flower	Lobelia cardinalis	10'	N/A
Virginia Bluebells	Mertensia virginica	10'	N/A
Solomon's Seal	Polygonatum Canaliculatum	10'	N/A
Ostrich Fern	Pteretis pennsylvanica	10'	N/A
Swamp Buttercup	Ranunculus septentrionalis	10'	N/A

Not Recommended

Box Elder	Acer negundo
Garlic Mustard	Allilaria officinalis
Tartarian Honeysuckle	Loicera tatarica
Reed Canary Grass	Phalaris arundinacea
Common Buckthorn	Rhamnus cathartica
Glossy Buckthorn	Rhamnus frangula
Multiflora Rose	Rosa multiflora

Exhibit 1102b (continued):

Plant species for vegetative Stabilization (Source: DuPage County Streambank Stabilization Program)

Installation

- Site Preparation
 1. Selected vegetative stabilization measure should be compatible with improvements planned or carried out by others.
 2. Protective measures should be started at a stabilized or controlled point on the stream and extended to a stabilized or controlled point downstream.
 3. The grade of the channel must be controlled, either by natural or artificial means, before any vegetative measure can be used, unless live stakes can be installed below the anticipated depth of the bottom scour.
 4. The substrate should have enough silt and clay material to maintain adequate moisture and nutrient supply, and sufficient pore space to permit root penetration. The bulk density should be 1.2-5 grams per cubic centimeter. Clay content should not exceed 35%.
 5. Soil depth appropriate for plant growth should be at least 12", except where adding soil material is not feasible because of steep grades.
 6. pH should be in a range between 5.5 and 6.5.
 7. Substrate should be free of toxins harmful to plant growth.

- Seedbed Preparation
 1. Apply fertilizer or other required amendments prior to final seedbed preparation.
 2. Prepare seedbed to a minimum depth of 3" by disking or other means. All tillage should follow the contour of the land.

- Seeding/Plugs (Exhibit 1102b)
 1. All permanent seed mixes should be installed with a rangeland drill seeder. Temporary mixes may be applied with a drill seeder, cultipacker, or a hydraulic sprayer. Hydro seeders are also good for larger areas.
 2. All seed, if possible, should be certified for viability.

- Timing
 1. Dormant seedings should take place between Dec. 1-Feb. 28 (north of U.S. 40), Dec. 10-Jan 15 (south of U.S. 40).
 2. Permanent seedings should take place between March 1 and September 30. Permanent seeding done between May 10 and August 10 may need irrigation.
 3. Temporary seeding should take place between March 1 and April 15 (oats), September 15 to October 30 (cereal rye and wheat), and March 1 to May 1 or August 1 to September 1 (perennial ryegrass).
 4. Plugs should be installed during spring.