

Deep River-Portage Burns Waterway Initiative Cost-Share Program

Submitted:

Northwestern Indiana Regional Planning Commission- May 2016

1. Project’s executive document summary number:

A305-3-125

2. Watershed management plan being implemented with cost-share funds:

Deep River-Portage Burns Waterway Initiative

3. Watershed & subwatersheds targeted by cost-share program:

Deep River-Portage Burns Waterway Watershed, HUC 0404000105

- Headwaters Main Beaver Dam Ditch Subwatershed, HUC 040400010501
- Main Beaver Dam Ditch-Deep River Subwatershed, HUC 040400010502
- Headwaters Turkey Creek Subwatershed, HUC 040400010503
- Deer Creek-Deep River Subwatershed, HUC 040400010504
- City of Merrillville-Turkey Creek Subwatershed, HUC 040400010505
- Duck Creek Subwatershed, HUC 040400010506
- Lake George-Deep River Subwatershed, HUC 040400010507
- Little Calumet River-Deep River Subwatershed, HUC 040400010508
- Willow Creek-Burns Ditch Subwatershed, HUC 040400010509

4. Critical Areas & Priority (High Quality) Areas for Implementation:

The critical areas and priority areas are detail in **Section X** of the Deep River-Portage Burns Waterway Watershed Restoration Plan which begins on **page X**. Cost-share BMPs must occur in a critical or priority area to be eligible.

The following catchment areas are included as critical areas in this watershed:

Tier 1 (highest priority): 3, 21, 24, 25, 26, 27, and 36

Tier 2 (second highest priority): 1, 7 11, 20, 22, 31, 33, 34, and 35

The two following tables list the water quality and habitat problems that have been identified in the Tier 1 and Tier 2 critical areas respectively. Implementation projects must address at least one of the problems identified for the catchment area in which it will occur.

Table 1 Tier 1 critical area water quality and habitat problems

Catchment Area	<i>E. coli</i>	Dissolved Oxygen	Nutrients	Sediment	Ammonia Toxicity	Physical Habitat
3	X		X	X		X

21	X	X	X	X	X	X
24	X	X	X	X	X	X
25	X	X	X	X	X	X
26	X	X	X	X		X
27	X	X	X	X		X
36	X		X	X		X

Table 2 Tier 2 critical area water quality and habitat problems

Catchment Area	<i>E. coli</i>	Dissolved Oxygen	Nutrients	Sediment	Ammonia Toxicity	Physical Habitat
1	X		X	X		X
7	X		X	X		
11	X	X	X	X		X
20	X	X	X	X	X	X
22	X		X	X		X
31	X		X	X		X
33	X	X	X	X		X
34	X	X	X	X	X	X
35	X		X	X		X

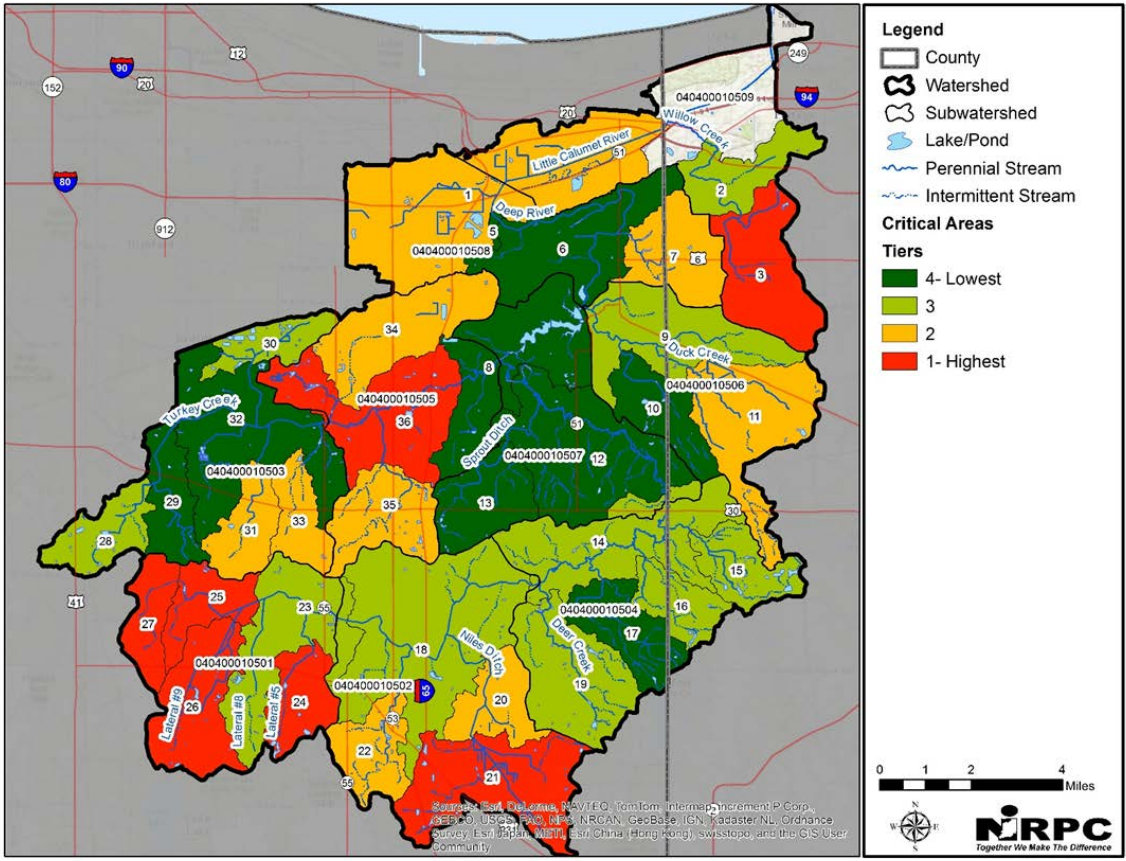


Figure 1 Critical areas

Table 3-7 identify the human activities, sources and site evidence tied to each water quality or habitat problem in tier 1 & 2 critical areas.

Table 3 Human activities, sources and site evidence tied to dissolved oxygen problems in tier 1 & 2 critical areas

Site	Human Activity					Source				Site Evidence					
	Agriculture	Urbanization	Channel Alteration	Impoundments	Septic Systems	Point Sources	Agricultural & Urban Runoff	Devegetated Riparian Areas	Channel Alteration	High Plant Abundance	Slow Moving Water	Reduced Water Volume	Organic Wastes	Turbidity	Color
11	X				X		X	X	X	X	X		X	X	X
20	X		X		X		X	X	X	X			X	X	X
21	X		X		X		X	X	X	X		X	X	X	X
24		X	X	X		X			X	X			X	X	X
25	X	X	X		X		X	X	X	X			X	X	X
26	X	X	X		X		X		X	X			X	X	X

27	X	X	X		X		X	X	X	X	X			X	X	X
33	X	X	X			X	X	X	X		X					X
34		X	X				X	X	X	X	X			X	X	X

Table 4 Human activities, sources and site evidence tied to nutrient problems in tier 1 & 2 critical areas

Site	Human Activity			Source						Site Evidence		
	Agriculture	Urbanization	Channel Alteration	Waste Water Treatment Plants/CSO/SSO	Landfills & Waste Disposal Sites	Confined Animal Feeding Operations	Agricultural & Urban Runoff	Pasture Runoff	Septic Systems	Proliferation of Filamentous or Algae Mats	Phytoplankton Blooms (Green Water)	High Plant Abundance
1	X	X	X	X			X		X		X	
3	X	X	X				X		X	X		
7	X	X					X		X	X		
11	X				X		X		X			X
20	X		X				X		X			X
21	X		X			X	X		X	X	X	X
22		X	X				X		X			
24	X	X	X	X			X		X	X	X	X
25	X	X	X				X		X	X	X	X
26	X	X	X				X		X	X	X	X
27		X	X				X		X	X		X
31	X	X					X					
33	X	X	X	X			X					
34		X	X				X		X	X		X
35	X	X	X				X					
36	X	X	X	X			X		X			X

Table 5 Human activities, sources and site evidence tied to sediment problems in tier 1 & 2 critical areas

	Human Activity	Source	Site Evidence
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Site	Land Cover Alteration	Riparian Alteration	Channel Alteration	Autumn Plowing	Road Maintenance	Channel Modification	Eroding Streambanks	Impoundments	Impervious Surfaces	Turbid Water	Deposited or Embedded Substrate	Slow Moving Water
1	X	X	X	X	X	X	X		X	X	X	
3	X	X	X		X	X	X		X	X		X
7	X			X	X		X	X	X	X	X	X
11	X	X		X	X					X	X	X
20	X	X	X	X	X	X	X			X	X	X
21	X	X	X	X	X	X	X			X	X	X
22	X	X	X		X	X		X	X	X	X	X
24	X	X	X		X	X	X		X	X	X	X
25	X	X	X	X	X	X				X	X	X
26	X	X	X	X	X	X				X	X	X
27	X	X	X	X	X	X				X	X	X
31	X	X		X	X		X		X	X	X	X
33	X	X	X	X	X	X			X	X	X	X
34	X	X	X		X	X	X		X	X	X	X
35	X	X	X	X	X	X			X	X		
36	X	X	X	X	X	X			X	X	X	X

Table 6 Human activities, sources and site evidence tied to ammonia toxicity problems in tier 1 & 2 critical areas

Site	Human Activity			Source								Site Evidence				
	Agriculture	Urbanization	Channel Alteration	Impoundments	Septic Systems	Point Sources	Agricultural & Urban Runoff (Fertilizer)	Manure Application	Concentrated Animal Feeding Operations	Piped/Buried Streams	Devegetated Riparian Areas	High Plant Production	Slow Moving or Stagnant Water	Organic Wastes	Suspended Solids	Alkaline, Anoxic, or Warm Water
20	X		X		X		X	X	X		X	X	X			X
21	X		X		X		X	X	X		X	X	X	X	X	X
24		X	X	X		X						X	X			X
25	X	X	X		X		X				X	X	X			X
34		X	X				X		X	X	X	X			X	X

Table 7 Human activities, sources and site evidence tied to physical habitat problems in tier 1 & 2 critical areas

Site	Human Activity		Source							Site Evidence							
	Agriculture	Urbanization	Channelization	Impervious Surfaces	Levees or Walls	Agricultural Drainage	Devegetated Riparian Areas	Dredging	Buried/ Piped Stream	Concrete or Rip-Rap	Embedded Substrates	Bridge or Culvert	Channelization	Predominance of Runs, Glides, or Pools	Eroded Streambanks	Lack or Alteration of Riparian Vegetation	Lack of Habitat Features
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X
11	X		X			X	X	X		X	X		X	X	X	X	X
20	X		X			X	X	X			X	X	X	X	X	X	X
21	X	X	X			X	X	X			X	X	X	X	X	X	X
22		X	X	X			X	X			X	X	X	X	X	X	X
24		X	X	X			X	X		X	X	X	X		X	X	X
25	X	X	X			X	X	X			X	X	X	X	X	X	
26	X	X	X			X	X	X			X	X	X	X	X	X	
27	X	X	X	X		X	X	X			X	X	X	X	X	X	X
31	X	X		X		X	X			X	X	X		X		X	X
33	X	X	X	X		X	X	X			X	X	X	X	X	X	X
34		X	X	X			X	X	X	X	X	X	X	X	X	X	
35	X	X	X	X		X	X		X	X		X	X	X	X	X	X
36	X	X	X	X		X	X	X			X	X	X	X	X	X	X

The following areas are included as priority areas in this watershed:

- The Hobart Marsh Area
- The Deep River Outstanding River Corridor

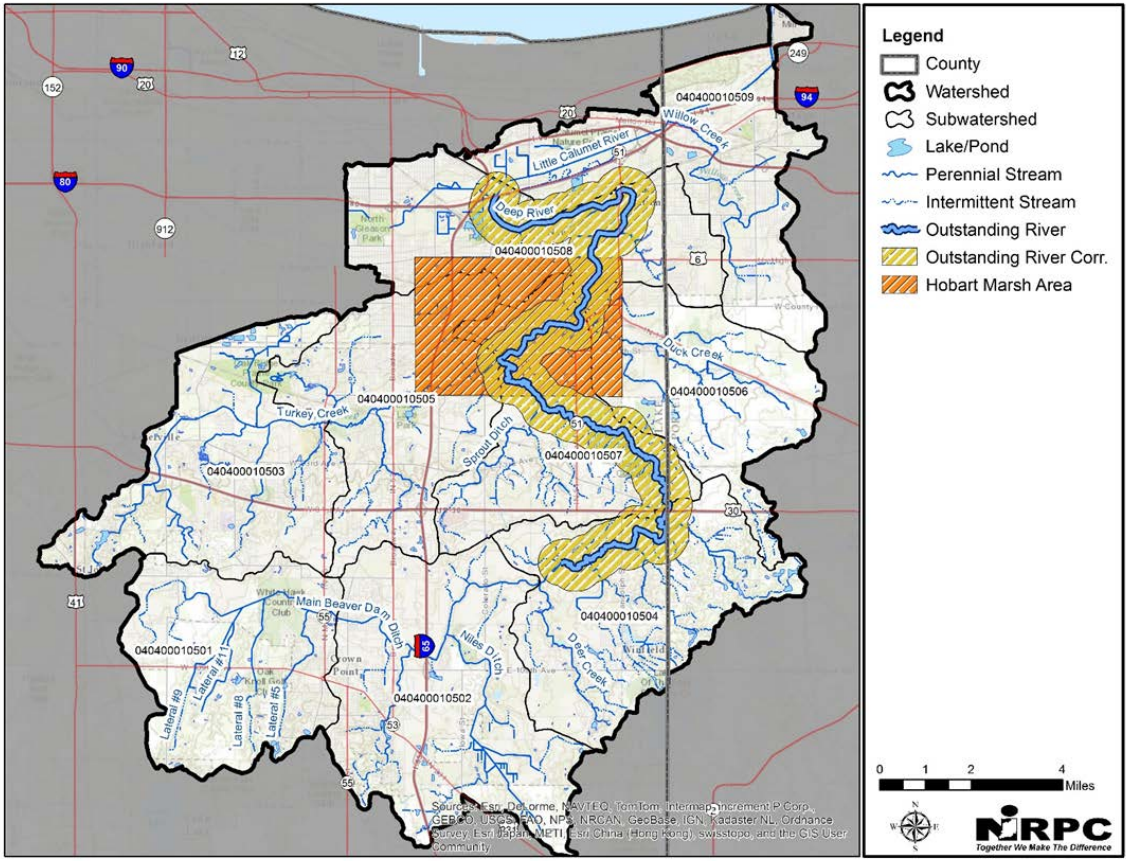


Figure 2 Priority areas

5. Decision Making Process for Determining Where BMPs will be targeted in Critical Areas

An initial deadline (1-month open period) will be established for cost-share proposals. The applications will be reviewed and ranked by a cost-share subcommittee using the urban and agricultural ranking sheets attached with this document. Applications and recommended projects will be presented to the steering committee for approval. Any conditional requirements will be made at this time. Following approval the applicant will be notified of funding status.

An open enrollment period for project proposals will follow if there are remaining funds that have not been allocated. Project proposals will be evaluated by the cost-share subcommittee as they are received. Applications and recommended projects will be presented to the steering committee for approval. Any conditional requirements will be made at this time.

There is no official minimum score required for funding consideration at this time. However, the cost-share subcommittee will use professional judgement in evaluate projects for effectiveness and cost-benefit. The steering committee may chose to establish a minimum score threshold for project funding at a later time.

6. Best Management Practices Eligible & Pollutants Addressed under this Cost-Share Program:

Best management practices (BMPs) are detailed in Section X starting on page X of the Deep River-Portage Burns Waterway Watershed Restoration Plan. Eligible practices under this cost-share program and the target water quality and habitat problems they address are in the following two tables.

BMPs must comply with standards and specifications developed by: the Natural Resources Conservation Service (NRCS), such as the NRCS Field Office Technical Guide (FOTG); the Indiana Department of Natural Resources (IDNR); or other recognized standards by IDEM. FOTG cod numbers, denoted by (###), are included with BMPs below where an NRCS standard and specifications exist). A Conservation Plan must be in place and followed in all agricultural fields to be eligible for cost-share funds. Since urban BMPs have been a fairly recent priority, a formalized list of standards and specifications does not exist. Standards and specifications recommended by IDEM include the LID Manual for Michigan, City of Philadelphia Storm Water Manual, and IDEM Storm Water Quality Manual. Other standards and specification may be considered but must be pre-approved by IDEM.

Table 8 Urban area best management practices

Best Management Practice	N	A	P	S	DO	E	H
Conservation cover (327)	X		X	X		X	X
Critical area planting (342)	X		X	X			X
Filter strips (393)	X		X	X	X	X	X
Grass swales	X		X	X	X		
Infiltration practices			X	X	X		
Open channel, two-stage ditch (582)*	X	X	X	X	X		X
Riparian herbaceous cover (391)*	X	X	X	X	X	X	X
Riparian forest cover (390)*	X	X	X	X	X	X	X
Pet waste stations						X	
Rain barrel or cistern			X	X			
Tree/shrub establishment (612)*	X		X	X			

N=Nitrogen, A=Ammonia, P=Phosphorus, S=Sediment, DO= Dissolved Oxygen, E= E. coli, H=Habitat

*See IDEM Section 319 Grant Program Eligible NRCS FOTG Practice (Ver. 2- May 2015) for key requirements

Table 9 Agricultural area best management practices

Best Management Practice (FOTG practice code)	N	A	P	S	DO	E	H
Comprehensive nutrient management plan (102)*	X		X				
Conservation cover (327)	X		X	X		X	X
Cover crop (340)*	X		X	X			
Critical area planting (342)	X		X	X			X
Field border (386)	X		X	X		X	
Filter strip (393)	X		X	X		X	X
Grade stabilization structure (410)*				X			
Grassed waterway (412)	X		X	X		X	
Integrated pest management (595)*	X		X	X			
Nutrient management (590)*	X		X	X		X	
Riparian herbaceous cover (391)*	X	X	X	X		X	X
Riparian forest cover (390)*	X	X	X	X	X	X	X
Spoil spreading, open channels (572)		X	X	X	X	X	

Best Management Practice (FOTG practice code)	N	A	P	S	DO	E	H
Wetland restoration (657)	X		X	X		X	X
Drainage Water Management							
Blind Tile Inlet/Tile Riser Buffer (620)	X		X	X			
Drainage water management (554)	X						
Open channel, two-stage ditch (582)*	X	X	X	X	X		X
Saturated Buffer (580*, 587*, & 620*)	X	X	X				
Structure for water control (587)*	X						
Subsurface drain (606)*	X						
Underground outlet (620)*	X						
Alternative Watering System	X	X	X	X	X	X	X
Fence (382)*							
Access control (472)*							
Livestock pipeline (516)*							
Pumping plant (533)*							
Watering facility (614)*							
Water well (642)*							
Livestock Exclusion	X	X	X	X	X	X	X
Fence (382)*							
Access control (472)*							
Stream Crossing (578)							
Prescribed Grazing	X	X	X	X		X	
Fence (382)*							
Prescribed Grazing (528)							

N=Nitrogen, A=Ammonia, P=Phosphorus, S=Sediment, DO= Dissolved Oxygen, E= E. coli, H=Habitat

*See IDEM Section 319 Grant Program Eligible NRCS FOTG Practice (Ver. 2- May 2015) for key requirements

7. Target Audience Covered under this Cost-Share Program:

The target audience includes agricultural owners and operators, municipal and county properties and easements, publicly owned lands, conservation organizations, and business properties within the critical and priority areas for implementation.

8. Percentage of Cost-Share that will be provided:

50% of the total cost for practices listed above will be cost-shared. The remaining percentage will be paid by the landowner via cash or in-kind service(s).

9. Cost-Share Program Advertisement:

The cost-share program will be advertised via NIRPC, SWCD and municipal websites, local media, partner newsletters, public meetings, workshops, field days, fliers distributed through partners, and word of mouth.

10. Cost-Share Program Application Review:

Cost-share applications will be reviewed and ranked by a cost-share subcommittee. The cost-share subcommittee will include urban and agricultural interest representatives. Applications and recommended projects will be presented to the steering committee for approval. Any conditional

requirements will be made at this time. Following approval the applicant will be notified of funding status.

11. Criteria for Reviewing Cost-Share Applications:

Each application will be ranked using individual agricultural and urban practice formats. The ranking will weight projects that result in higher pollutant loading reduction and those located closer to waterbodies or conveyances higher than those resulting in lesser positive impacts. Rankings will be reviewed at a minimum quarterly to fund the highest ranked projects. A copy of the application form and ranking criteria for urban and agricultural projects are included at the end of this document.

12. Responsibility for the Administration Aspects (Paper Work) of the Cost-Share Program:

The Northwestern Indiana Regional Planning Commission will be responsible for administration of the cost-share program.

13. Maximum dollar amount a cost-share recipient may receive:

The maximum dollar amount that a cost-share recipient can receive is \$15,000.

14. Maximum dollar amount on any individual BMP

There is no official individual BMP cap but the cost will be evaluated to make sure it is within reason.

15. Field equipment cost-share:

Cost-share will not be available for equipment modifications.

16. Best management practice installation review and approval according to recognized standards:

Best management practices will be reviewed and approved by NRCS representatives and/or SWCD or ISDA representatives or Technical Service Provider (TSP) or US Forest Service representative or certified arborist/forester or municipal technical staff, contractor, or project designer.

17. Permitting associated with best management practice installation:

Applicants will be responsible for obtaining and paying for any necessary permits for BMP installation.

18. Geolocation of BMPs Installed:

Applicants will be responsible for geolocating or providing a map with sufficient detail (ex. Google map with aerial imagery) to determine the location of the BMPs installed under this cost-share program. NIRPC can assist upon owner request. NIRPC will be responsible for location tracking all BMPs installed under this cost-share program.

19. Models used to estimate the pollutant load reductions from BMPs installed:

STEPL and the Region 5 will be the primary models used to estimate pollutant load reductions. Other models may be considered based on approval from IDEM.

20. Best management practice maintenance and responsibility:

Applicants will be responsible for maintaining all best management practices. All vegetative and land management practices must be maintained for a minimum of five years with the exception of cover crops (annual practice). All structural practices must be maintained for a minimum of 10 years.

Project Contact Information

Joe Exl

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**Deep River-Portage Burns Waterway Initiative
319 Urban Cost-Share Program Application Form**

Applicant Information

Applicant:	Project Contact:
E-mail:	Phone:
Address:	
City, State:	Zip:

Project Information

Problem(s) to be addressed by Project (place "X" next to all that apply):
 Nutrients___ Sediment___ Dissolved Oxygen___ E. coli___ Habitat___

Generally describe problem source(s) to be addressed by Project:

Practice Name & Code (if applicable)	Quantity/Unit	Approx. Install Date

Estimated total project cost:

Proposed project location description or address:

Would you be interested in posting educational signage as part of the project?

I hereby state that I own or have control of the above listed land under consideration. I understand that NIRPC will need to access my property annually to photo document the status of the installed practice; that all vegetative best management practices must be maintained for a minimum of five years and that all structural practices must be maintained for a minimum of 10 years. Furthermore, I understand that submitting this application does not guarantee funding and that all projects require a 50% match (cash or in-kind) and that project funding will occur on a reimbursement basis.

Signature: _____ Date: _____

Questions? Contact Joe Exl at the Northwestern Indiana Regional Planning Commission at jexl@nirpc.org or (219) 763-6060.

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**Deep River-Portage Burns Waterway Initiative
319 Agricultural Cost-Share Program Application Form**

Applicant Information

Applicant Name:

E-mail:

Phone:

Address:

City, State:

Zip:

Landowner Name:

Address:

City, State:

Zip:

Farm #:

Tract #:

Field #:

Project Information

Problem(s) to be addressed by Project (place "X" next to all that apply):

Nutrients___ Sediment___ Dissolved Oxygen___ E. coli___ Habitat___

Generally describe problem source(s) to be addressed by Project:

NRCS Practice Tile & FOTG Code	Quantity/Unit	Approx. Install Date

Estimated total project cost:

I hereby state that I own or have control of the above listed land under consideration. I understand that in order to receive payment for implemented practices a conservation plan must be in place for the land benefitted by this cost-share program before cost-share dollars will be paid. I understand that NIRPC and/or a NRCS, ISDA or SWCD representative will need to access my property annually to photo document the status of the installed practice; that all vegetative best management practices must be maintained for a minimum of five years (1-year for cover crops) and that all structural practices must be maintained for a minimum of 10 years. Furthermore, I understand that submitting this application does not guarantee funding and that all projects require a 50% match (cash or in-kind) and that project funding will occur on a reimbursement basis.

Signature: _____ Date: _____

Questions? Contact Joe Exl at the Northwestern Indiana Regional Planning Commission at jexl@nirpc.org or (219) 763-6060.

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**Deep River-Portage Burns Waterway Initiative
319 Urban Cost-Share Program Ranking**

	Yes	No	Possible Points	Points Awarded
Site is owned or managed by municipality, county, public entity, conservation organization or business. STOP HERE IF NO, PROJECT IS INELIGIBLE			NA	NA
Watershed Critical & Priority Preservation Area Criteria				
High priority (tier 1) critical area				
Moderate high priority (tier 2) critical area				
Priority preservation area (Hobart Marsh Area or Deep River Corridor)				
Moderately low or low priority critical area STOP HERE IF NO, PROJECT IS INELIGIBLE			NA	NA
Location Criteria				
	Yes	No	Possible Points	Points Awarded
Project is located adjacent to a stream or ditch?			5	
If it is not located adjacent to a stream or ditch, the site has storm sewers or other conveyance infrastructure that directs storm water to a stream or ditch?			3	
Site is not located adjacent to a stream or ditch nor does it have storm water conveyance infrastructure?			1	
Impervious surface cover draining to site is greater than 75%?			5	
Impervious surface cover draining to site is 50-75%?			3	
Impervious surface cover draining to site is less than 50%?			1	
Project is located within drainage to CSO?			5	
Practice Criteria				
	Yes	No	Possible Points	Points Awarded
Does the project establish a conservation buffer practice along a stream or ditch?			5	
Does the project address nuisance wildlife (geese) or pet sources of pathogens?			3	
Is the project a storm water retrofit that treats storm water from a parking lot or transportation (road)?			5	
Is the project a storm water retrofit that treats storm water from a rooftop or hardscape (sidewalk, town plaza, etc.)?			3	

Does the project help maintain or increase urban tree canopy cover?			3	
Does the project provide new wildlife or pollinator habitat?			3	
Does the project connect (corridor) existing wildlife habitat?			3	
Visibility & Outreach Opportunity				
	Yes	No	Possible Points	Points Awarded
Project with high visibility/public accessibility			3	
Willing to post educational signage			3	
Water Quality & Habitat Benefits				
	Yes	No	Possible Points	Points Awarded
Does the project reduce nutrient loading?			3	
Does the project reduce sediment loading?			3	
Does the project reduce BOD or improve dissolved oxygen concentrations?			5	
Does the project improve habitat quality?			5	
Does the project address three or more of these benefits?			3	
Total Points Awarded				

Load Reduction	
Model used	
Sediment (t/year)	
Phosphorus (lbs/year)	
Nitrogen (lbs/year)	
BOD (lbs/year)	
E. coli (%)	

**Deep River-Portage Burns Waterway Initiative
319 Agricultural Cost-Share Program Ranking**

	Yes	No	Possible Points	Points Awarded
Written Conservation Plan in place? STOP HERE IF NO, PROJECT IS INELIGIBLE			NA	NA
Watershed Critical & Priority Preservation Area Criteria				
High priority (tier 1) critical area				
Moderate high priority (tier 2) critical area				
Priority preservation area (Hobart Marsh Area or Deep River Corridor)				
Moderately low or low priority critical area STOP HERE IF NO, PROJECT IS INELIGIBLE			NA	NA
Location Criteria				
	Yes	No	Possible Points	Points Awarded
Is project (edge of field) located less than 100 feet to a stream or ditch?			5	
100 feet – 1,000 feet to a stream or ditch?			3	
Greater than 1,000 feet to a stream or ditch?			1	
Is surface flow from cropland directed to a tile inlet?			3	
Are cropland, pastures or woodland to be treated considered to be Highly Erodible or Potentially Highly Erodible soil (HEL)?			5	
Do a majority of the soil types in the project area have a high runoff potential (Not tile drained and HSG classification of C/D, B/D or A/D)?			5	
Do a majority of the soil types in the project area have moderate runoff potential (HSG classification of either C or C/D with tile drain)?			3	
Do a majority of the soil types in the project area have moderately low to low runoff potential (HSG of B or A)			1	
Practice Criteria				
	Yes	No	Possible Points	Points Awarded
Does the project include using winter cover crops?			3	
Does the project include using winter cover crops on field tilled cropland?			5	

Does the project establish a conservation buffer practice along a stream or ditch?			5	
Is manure applied to cropland in the project field?			5	
Does the project stabilize gullies?			5	
Does the project manage drainage water from surface or subsurface drains?			5	
Does the project convert cropland to hay, pasture, prairie/ grassland, forest, or wetland habitat?			5	
Does the project develop a Comprehensive Nutrient Management Plan or Integrated Pest Management Plan?			3	
Does the project restrict livestock access to a stream or ditch?			5	
Does the project address runoff from barns, feedlots, water areas, or pastures within 500 feet of a stream or ditch?			5	
Does the project provide new wildlife habitat?			3	
Does the project connect (corridor) existing wildlife habitat?			3	
Water Quality & Habitat Benefits				
	Yes	No	Possible Points	Points Awarded
Does the project reduce nutrient loading?			3	
Does the project reduce sediment loading?			3	
Does the project reduce BOD or improve dissolved oxygen concentrations?			5	
Does the project improve habitat quality?			5	
Does the project address three or more of these benefits?			3	
Total Points Awarded				

Load Reduction	
Model used	
Sediment (t/year)	
Phosphorus (lbs/year)	
Nitrogen (lbs/year)	
BOD (lbs/year)	
E. coli (%)	