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Completing the Little Calumet River Levee System Project

Financial Analysis

Prepared by:

Policy Analytics, LLC

For the:

Northwest Indiana Regional Development Authority

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Executive Summary

The Little Calumet River Basin Flood Control project, along with the Commission which serves as the local agent, was created in the mid-1980's to address the flooding issues vexing the Little Calumet watershed [including portions of the Deep River, Portage Burns, and Plum Creek watershed areas]. The project, begun as a partnership with the federal government under the US Army Corps of Engineers, [USACE], has now been active for close to 30 years and has reached the final stages. The Northwest Indiana Regional Development Authority, in collaboration with area legislators and the Commission asked Policy Analytics, LLC to independently assess the costs of completing the project and providing for the very necessary ongoing operation and maintenance of the system.

The following report presents both the costs and options for meeting those costs, addressing in more depth the findings which are summarized below:

1. The project – creating a levee system along the Little Calumet River which will meet the Federal Emergency Management System certification to allow development to proceed in the flood zone without requiring flood insurance – is 95% complete.
2. The total cost of the project, shared between the USACE and the local entity is now at \$257 million, and will approach \$275 million at completion. The cost sharing percentages for the levee project are, 75% for the federal share and 25% for the local share, however the local share is made up of both cash outlays and other payments for project responsibilities per the Local Cooperation Agreement, [LCA].
3. The current costs remaining to be covered for the local entity – the Commission – total \$7.4 million, after subtracting the amount remaining from the \$14.0 million appropriated in 2009 by the State of Indiana.
4. The costs for operation and maintenance of the system – the necessary ongoing costs – are approximately \$3.7 million per year [in 2011 dollars].

5. There remains a controversy between the USACE and the Commission [with the involvement of the State of Indiana] over the value of the local entity's contributions during the 26 year life of the project. Depending on the settlement details, this could result in an additional \$12.0 million in costs to the local entity, although the likely amount after negotiations and audits should be much less.
6. The preferred public finance structure for meeting flood control costs has been for the residents within the watershed to pay a "special assessment" – IC 6-1.1-1-17 – which is a non-tax fee based on the type of property held by the owner. The fee structure is set as a range, \$45 per year for residential property parcels up to \$360 annually for industrial property owners.
7. The special assessment fee arrangement reflects the fact that property owners within the watershed receive a benefit from the management of the water flowing through that geography and the controlling of flood damage. The average annual cost of residential flood insurance through the FEMA National Flood Insurance Plan is \$870 – and is based on the value of the property improvement on the parcel.
8. Homeowners within the watershed required to purchase flood insurance will save approximately \$800 per year. This savings will – over the life of an average mortgage of 20 years – reduce the cost of home ownership within the watershed by a significant margin.
9. The application of the same fee within the Little Calumet watershed East of I-65 will provide for an extension of the levee system into that area as well. This would provide levee protection along the Little Calumet river and within the watershed throughout Lake County. [This optional extension is discussed in Appendix B].

Finishing and Maintaining the Little Calumet Flood Control Project

A Discussion of the Costs and Possible Funding Options

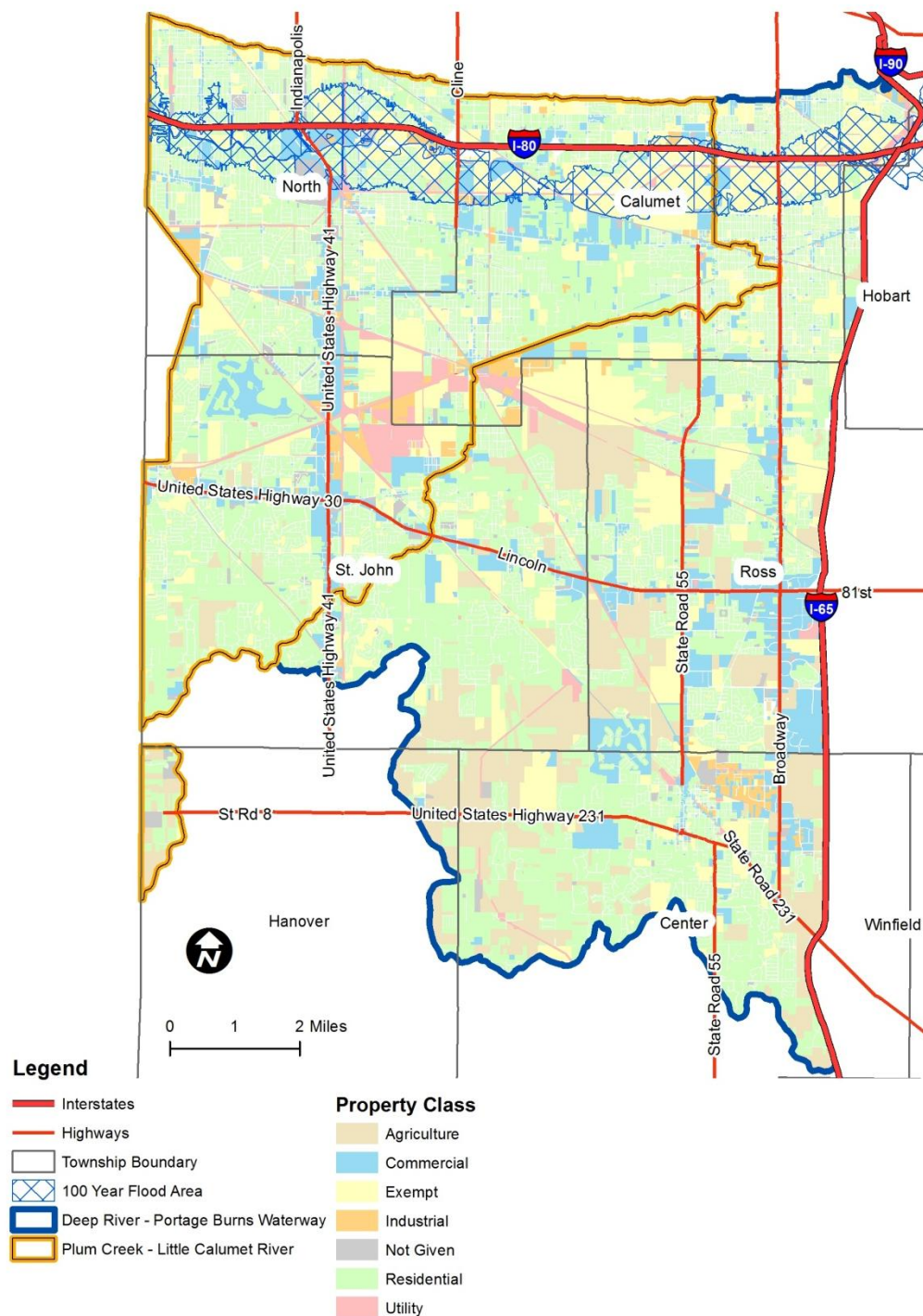
Introduction

For more than 200 years, the Calumet River system has presented problems for developers, planners, engineers and homeowners. The Chicago area's low, flat geographic profile meant that the rivers through this area – a natural topography of marsh and wetland – had always flowed slowly. However, the commercial, industrial and residential development that took place over the past 150 years has exacerbated the naturally occurring hydrological problems.

The State of Indiana studied the flooding issues surrounding the Little Calumet River beginning in 1970 and a planning group, the Little Calumet River Basin Commission, began to propose solutions. The Indiana General Assembly created the Little Calumet River Basin Development Commission in 1980, [IC 14-13-2], to serve as the local sponsor for the then conceptual levee project and to partner with the US Army Corp of Engineers [USACE] to carry the levee development forward. Finally the federal government in 1986 authorized the construction of the levee system in the Water Resources Development Act to provide flood protection along the basin. The intent of the project is to provide flood protection to an estimated 9,500 residents within the flood zone located across the cities of Hammond, Munster, Griffith, Highland and Gary, who receive the water flowing from throughout the Little Calumet watershed shown in the map below.

The map on page 2 outlines the Little Calumet watershed and defines the geography within which the levee project is designed to address water management and flooding issues. While watersheds clearly do not follow political boundaries, the current project area, shown in the map, encompasses only that portion of the watershed bounded on the west by the Illinois state line and on the east by Interstate 65. Within these north to south lines, the entire watershed is included, a geography that has seen substantial development within the past few decades and is likely to see much more in the next few. The map also provides information on the classes of property within the watershed, the makeup of which has become predominantly residential in nature.

Little Calumet River Basin Area
Includes Deep River – Portage Burns and Plum Creek – Little Calumet Watersheds
Parcels constrained from Lake County Boundary to I-65



The complexity of the levee system's requirements, increased funding requests and the lack of a local source of revenue have contributed to the project's 25 year duration. In September of 2007, United States Congressman Peter Visclosky and Indiana Governor Mitch Daniels joined together to request a loan for the project from the Northwest Indiana Regional Development Authority in the amount of \$6.0 million in the hope of finishing the project quickly, [the loan was approved in April of 2008]. Then in September of 2008 a massive flood brought the rapid completion of the project to the forefront of the entire region's agenda. As a further response, during the 2009 legislative session the Indiana General Assembly appropriated \$14.0 million to the project to effect completion.

This report details the remaining tasks necessary to complete and maintain the project, the financial costs associated with those items, and a methodology for raising the revenue necessary to fund the completion and maintenance. A detailed listing of project tasks and costs related to the current project is included in Appendix A, while the costs and possible revenues associated with an optional expansion of the levee system to include portions of the watershed east of Interstate 65 is discussed in Appendix B to this report.

Percentage of Completion – the Tasks Left to Accomplish

According to the USACE the project is 95% complete. In a scheduling communication from early September 2011, the Corps showed the major remaining construction projects to be completed by mid-2013. After that, only inspection and certification issues would remain per that timetable. Although other issues, including cost sharing negotiations between the USACE and the Little Calumet River Basin Development Commission [the "Commission"] must still be worked through, much of the remaining project has been designed, and is under contract.

The remaining tasks of construction for project completion can be grouped into four categories, [a detailed description of each task, purpose and cost can be found in Appendix A].

1. Construction tasks which have already been designed and contracted, and for which the USACE has already drawn the funds. These total approximately \$5.6 million and are scheduled to be completed by early 2012.

2. Construction tasks which have been designed and in some cases contracted for, but which have not yet been funded. These tasks largely relate to the finishing of the project – providing boundaries [fencing], creating access roads or pathways for maintenance, and in some cases repairing structures degraded over time. The total for this category is \$9.7 million.
3. “Project Paperwork” – There are a number of details and components that must be inspected, documented and certified for the project to be deemed complete at which point the maintenance and operation are to be handed over to the Commission. This category totals \$200,000.
4. Designated Remaining Work – These are tasks that have been deemed to be part of the Project or have been added as a result of USACE specifications, per the Local Cooperation Agreement, [LCA]. These include \$4.4 million for wetland mitigation in Hobart and \$750,000 for recreational development. This category of tasks totals \$5.4 million
5. Local Tasks Only – There are portions of the project which for various reasons – past and pending agreements and rulings, terms of the LCA, and maintenance deficiencies – remain the sole responsibility of the local entity, the Commission. These also include the results of land acquisitions’ negotiations, upgrades to certain structures, or repairs. The total for these tasks is \$8.2 million.

The total costs of the project are shared between the federal government and the local entity. For the balance of the project until complete and for all tasks that meet the federal criteria, the federal government picks up 75% of the cost, with the remainder paid by the Commission. After subtracting the projects – primarily those being constructed this year – for which the USACE has already drawn funds, the total for the above categories is \$23.6 million with the local share [including those items borne solely by the Commission] totaling \$12 million. However there is a balance remaining in the state’s 2009 appropriation to the Little Calumet Project of \$4.5 million. After subtracting that amount, the balance left for the Commission to fund is \$7.4 million. [The details of this calculation can be found in Appendix A.]

Operating and Maintaining the Levee System

When the levee system is complete, the portion west of I-65 to the Illinois border will entail approximately 22 miles of levees and floodwalls, with pumps, control structures and flood warning systems that must be operated and maintained. The USACE has estimated that the annualized cost of operating and maintaining the Little Calumet levee system, excluding administrative costs, is \$3.52 million [in 2011 dollars]. For purposes of this report we have obtained annual budget and revenue costs for the Commission and have estimated the net administrative costs at \$200,000 per year. In addition, it is customary to include a reserve for one-time unanticipated expenditures and emergencies, which is capped at \$1.7 million after 6 years. As a result, the total ongoing cost of maintaining the levee system is approximately \$4.1 million dollars on an annual basis. In the first few years, 2012 through 2015, the work being undertaken on finishing the system and the repairs being done to early portions of the structure will serve to reduce the maintenance costs. A complete build-up of the budget is given in Table 2 on page 7.

Settling the Books with the USACE

The Little Calumet levee system project has been, throughout its long history, jointly funded between the federal government and the local entity. The Little Calumet River Basin Development Commission has been funded until now primarily through state appropriations and some state in-kind contributions. It was anticipated that state funds expended for highway construction projects which assisted in the channeling of the water or served to enhance or provide tiebacks for the levee structures would provide significant credits toward the local match required for the project. Commission funds have also been used to acquire property rights to allow construction of the levees. The value of these acquisitions along with direct construction investments and State/local monetary contributions constitute the local match and are termed “credits” under the terms of the LCA.

During the lengthy process of completing the levee system, a number of disputes have arisen over the value of the “local contributions” resulting in a further controversy over whether the Commission [read state/local entities] has met its final funding obligation. This issue of the credits must be resolved before a clear and firm value can be established regarding the remaining local share dollars that will be required so that the project can finally be certified and all the benefits of the system, including the lowering of insurance costs to homeowners and businesses are realized.

At the present time, the USACE believes that the Commission is “behind” by approximately \$12 million. The Commission believes that there are a number of significant investments that the State or Commission has made which are not included in the USACE calculation of the total local credits. This issue adds further uncertainty to the question of the cost of completing the project.

Providing the Funding to Finish and Maintain

It has been proposed that the revenue necessary to complete the Little Calumet River Basin levee system is to be raised through the application of a special assessment on property owners within the watershed of the Little Calumet River Basin. A “special assessment” is defined in the statute, IC 6-1.1-1-17, as “a ditch or drainage assessment, barrett law assessment, improvement assessment, sewer assessment, sewage assessment, or any other assessment which by law is placed on the records of the county treasurer for collection.”

The concept of a special assessment relates the benefit – in this case water management and flood protection – to the payment of a part of the cost of providing that benefit. Special assessment fees or special benefit assessments have a long history under both federal and Indiana law. The fees have been found by the courts NOT to be taxes – provided that the fees are related to and assessed on those individuals participating in the benefits of the project or district.

Table 1				
Estimated Annual Revenue from a Special Assessment on Parcels within the Current Project Area Watershed for the LCRBDC				
Property Class	Parcel Count	Per Parcel Annual Fee	Discount for Non-Collection	Annual Revenue
<i>Agriculture</i>	471	\$ 90	95.2%	\$ 40,350
<i>Commercial</i>	6,492	\$ 180	87.8%	1,025,418
<i>Non Gov Exempt</i>	951			
<i>Govt Owned Exmpt</i>	7,162			
<i>Industrial</i>	653	\$ 360	90.7%	213,277
<i>Not Given</i>	134			
<i>Residential</i>	102,095	\$ 45	89.4%	4,106,311
<i>Utility</i>	662	\$ 360	89.8%	214,009
Total	118,620			\$ 5,599,365

The fee structure shown in Table 1, which would be applied to parcels within the watershed is estimated to produce approximately \$5.6 million per year. The revenue estimates have been discounted for the rate of property tax non-payment within the districts included in the watershed. This has been done to reduce possible overestimating of revenues. While special assessments are not deemed to be taxes, they are normally applied to property tax bills and property owners would pay the assessments in the same manner and at the same time that those taxes are paid.

The special assessment revenues raised would provide for an approximately \$5.6 million annual budget – the details of which are given in Table 2. In the early years, the reduced need for maintenance – due to the recent completion of many portions of the project – provides an opportunity for the Commission to repay the RDA loan. The total amount of funding needed to complete the project, including any amount for the “credits” issue is assumed to be bonded for, and paid through a debt service payment of \$1.55 million annually.

Table 2						
LCRBDC - Budgeted Expenses for Operations, Maintenance, Loan and Bond Repayment within the Current Project Area Watershed						
[in millions of constant dollars]						
Budget Category	Year_1	Year_2	Year_3	Year_4	Year_5	Year_6
Operations & Maintenance	0.57	2.03	2.60	2.83	2.96	3.52
Administrative Budget	0.20	0.20	0.20	0.20	0.20	0.20
Contingency Reserve	0.85	0.35	0.25	0.15	0.05	0.05
Total O&M	1.62	2.58	3.05	3.18	3.21	3.77
RDA Loan Repayment	2.43	1.47	0.92	0.69	0.50	
Debt Service on Bonds	1.55	1.55	1.55	1.55	1.55	1.55
Total Annual Budget	5.60	5.60	5.52	5.42	5.26	5.32
Rev	5.6	5.6	5.6	5.6	5.6	5.6
Balance	0.00	0.00	0.08	0.18	0.34	0.28

Appendix A

Appendix A provides the costs and tasks in a detailed and descriptive form. The cost sharing percentages are defined under the Local Cooperation Agreement – the basic federal share is now 75% of approved costs and the local share is 25%. This Appendix lists the tasks left to complete in the order that the USACE has outlined them for completion. The text below describes in detail the costs and tasks which are outlined and summed in the Table at the end of this Appendix.

1. The USACE has already drawn funds totaling \$5,602,524 for the Stage V-2 modifications, and the Stage V-II, and Stage V-III construction tasks. These projects complete the originally planned Corps flood control construction project, except for a section referred to as Southmoor which is addressed later in this summary document. These stages are located along the Little Calumet River as described below:
 - a. Stage V-2 -- Kennedy to Northcote
 - b. Stage VII -- Northcote to Columbia
 - c. Stage VIII -- Columbia to Stateline
2. Additional tasks have been identified by the Corps as needed to meet current standards. At this time these projects are in varying stages of finalization of design which must be completed prior to bid letting and the actual construction. Conservatively, the total for these projects is \$9,740,000. Except for 2 tasks which will be borne entirely by the LCRBDC, and recreation projects which are shared 50/50, the costs are shared 75/25 Federal/Local. The detailed tasks are listed below:
 - a. Pump Station 2B modification - \$1,310,000. This project involved the upgrade of 3 pump stations in the west reach of the project because of a needed utility service upgrade.
 - b. In Project Wetland Mitigation – \$50,000. There are 115 acres of mitigation in the project area near Chase and Clark Streets where the wetland habitat created for mitigation of some of the impacts resulting from the construction of the flood control project has been compromised by invasive species and remediation is required.
 - c. Stages VII and VIII – Fencing and railing - \$135,000. This modification will address miscellaneous safety issues identified along the project. The contractor shall install new gatewell fencing and safety railing in areas the Government's Safety Office judges could present safety hazards for operation and maintenance workers and the general public.

- d. Stages VII and VIII – Final Quantity - \$520,000. There are a high number of unit priced items in the contract and all need to be adjusted, per contract terms, to match actual final quantities installed or placed. For example, the final volumes of fill material, square feet of steel sheetpile, acreage of seeding, lineal feet of trail, etc. shall all be verified by the Government and the contract amount shall be increased or decreased accordingly per item. These values are determined after final surveys and cross sections, from independent licensed surveyors, are approved by the Government. The value is an estimate of potential costs as final values have not all been generated.
- e. Southmoor - \$2,180,000. The project consists of building 639 feet of floodwall, 178 feet of flood fighting area, and 225 feet of clear zone (at a minimum ground elevation of 599.2 NGVD 29) along the line of flood protection. The project also includes building a drain outlet and gravel access road to the structure, just west of Hohman Avenue in the Forest Avenue area.
- f. Levee tiebacks, Access ramps, and channel cleaning - \$5,375,000. The project consists of tasks which are anticipated to be let under a single contract including:
 - 1. The Hammond tieback is approximately 2,500 linear feet with the alignment north along State Line Avenue and will consist of approximately 115' feet of permanent floodwall as a tieback to the Forest Avenue levee with the remaining section consisting of prefabricated concrete blocks for efficient installation during flood fighting.
 - 2. The Munster tieback is approximately 2,500 feet in length with alignment south along State Line utilizing temporary prefabricated water bladders. The water bladders are readily secured and filled thus facilitating efficient flood fighting.
 - 3. The Gary-Ironwood tieback is approximately 2,000 feet in length paralleling the existing CSX railroad embankment completing a constructed feature built to Government standards.
 - 4. The installation of 6 access ramps that will provide stable access to the river at strategic locations along the entire length of the project to debris removal and maintenance.
 - 5. The clearing of the river channel between Cline and the state line of the accumulation of lodged trees, root wads, and other debris that impedes normal flow of water down the Little Calumet River which could be the cause of future flooding during intense rainfall events.
 - 6. The installation of a Pump Station at 27th and Chase to pump water from a land side ditch over the floodwall and to the river. This project also includes installing a pipe, catch basin, and outlet

which would drain the west side property along Chase to the same ditch connected to the proposed pump station. The project also includes connecting the ditch already mentioned with the existing ditch running east and west along I-80/94. This project also included building a concrete storage box adjacent to the Ironwood pump station and providing an extra pump, and jib crane to install the pump during flood events.

- g. Pipe inspection Contract INDOT Area east - \$80,000. The USACE would perform the initial camera inspection of the pipes throughout the INDOT tieback segment at the I-65/I-80/94 interchange to determine their condition.
 - h. 902 PAC/LRR report [ongoing] - \$90,000. The Post-Authorization Change Report (902 PACR) / Limited Reevaluation Report (LRR) is the USACE document required for notification to Congress of the cost increases and recommendation that the project's authorization be modified in order to complete construction. This cost is simply to reimburse the USACE for their time in completing this necessary paperwork.
3. Levee evaluation is required for system accreditation under the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA). The USACE must generate an engineering report documenting the structures and system hydrology, and an evaluation report which will review and evaluate the system as a component and prerequisite of FEMA accreditation of the system for potential removal of areas protected by the system from the Special Flood Hazard Area— total cost is \$200,000 which is added to the Total Project Cost and thus cost shared.
4. Per the LCA, the USACE has identified additional work not currently “tasked” which must be undertaken [designed, contracted, scheduled, and constructed] in order for the levee system project to meet final approval and be declared completed. This work is detailed below and totals \$5,425,000. All projects are included in the Total Project Cost and thus cost shared.
- a. Hobart Wetland Mitigation contract - \$4,375,000. This project addresses the wetland mitigation obligation for habitat impacts caused by construction of the Little Calumet River Flood Control Project. The mitigation will consist of restoration and enhancement of savanna and woodland types, as well as the restoration of emergent wetland, sedge meadow and wet, wet mesic and mesic prairie as well as signs, fences, and off road vehicle barriers to protect the site.

- b. Recreation contract - \$750,000. The purpose of the project is to complete all the trails laid out in the original recreation plan and to connect all the parts of the trail that has been built to date. Currently, the Recreation Trail ends at Calumet Avenue. The Recreation Project would include building approximately 5,507 feet of new trail all the way to Hohman Avenue. New trail also needs to be installed on top of the Griffith Levee (approximately from Cline Avenue to the EJ&E Railroad along the North side of River Drive) which is approximately 2,527 feet. Crossings will have to be installed at the EJ&E Railroad as well as at Cline Ave. A railroad crossing needs to be installed at the N&W Railroad near Burr Street. A crossing needs to be installed at Grant Street. Along Chase Street, approximately 2,553 ft of sidewalk is to be improved.
 - c. Levee IEPR - \$200,000. The Independent External Peer Review (IEPR) is an important independent level of review performed by a qualified team outside of USACE. This will be performed on the remaining design and construction activities which will complete the Little Calumet River Project. This cost will be added to the TPC and thus will be cost shared.
 - d. Real Estate crediting - \$100,000. Rights for several properties remain to be acquired or required paperwork filed for review leading to final crediting of the value of the property right to the LCRBDC's credits against the Total Project Cost. This value represents the current estimate of Government effort to complete the necessary review.
- 5. The total for all the above projects is \$20,967,524 and the work is expected to be completed by the end of 2013. [ACE scheduling estimate from September of 2011].
 - 6. The total in #5 above must be reduced by the \$5,602,524 funds already in the USACE coffers.
 - 7. According to the USACE list of tasks, this \$15,365,000 is the net cost of finishing the Corps cost shared portion which is presently unfunded. These costs would be shared and are estimated at \$11.5 million to the federal government and \$3.8 million to the local entity.
 - 8. The USACE has determined that certain portions of the project have suffered deterioration since they were originally constructed and must be repaired prior to the project being certified. According to the LCA the responsibility for maintaining these portions of the system resided with the local entity, therefore these costs must be borne solely by the local entity. The total for these tasks is estimated at \$2,750,000.

9. The USACE has also identified certain repairs to the Stage V-2 structures in Hammond and Highland, however in this case the costs will be shared at a total cost of \$155,670.
10. The Commission has a number of tasks that must be undertaken to bring completion to the project. In some cases the costs remain as a result of unsettled land acquisition transactions, or added costs for easements that remain to be acquired. There are also levee upgrades or repairs that are required by the USACE which the Commission understands are prudent for the long-term viability of the system. These costs are the sole responsibility of the local entity and total \$5,329,390.
11. Adding the adjustments to the previous total, the final “cost to complete” is \$23,600,060, with the Local share being \$11,959,558
12. The State of Indiana appropriated \$14 million in 2009 for finishing the levee project. As of October 31, 2011, there is \$4,538,611 remaining from that appropriation – a portion of it, \$1,084,294 is as yet, un-allotted.
13. The final amount yet to be covered for the LCRBDC is the remaining \$7,420,947.

Appendix A – Calculation of Net Costs to Complete

Table 3				
Comprehensive List of Costs to Complete Little Calumet River Basin Development Project				
Item _#_	Categories of Tasks / Costs	Total Project Costs	Federal Share (75%)	Non-Federal Share (25%)
1	Project Costs for Which Funds Already Drawn Down	5,602,524	4,201,893	1,400,631
2	Additional Tasks Requiring Additional Sponsor Funds	9,740,000	7,305,000	2,435,000
3	Levee Certification	200,000	150,000	50,000
4	Designated "Remaining Work"	5,425,000	4,068,750	1,356,250
5	Per ACE Schedule: Total Costs to Complete Corps Design, Construction and Review Functions	20,967,524	15,725,643	5,241,881
6	Less: Costs for Tasks Already Funded by Corps & LCRBDC	5,602,524	4,201,893	1,400,631
7	Net Total Costs to Complete	15,365,000	11,523,750	3,841,250
Adjustments and Additions of Tasks Necessary to Complete				
8	Add: Repair Tasks per the ACE PIR's	2,750,000	-	2,750,000
9	Add: Repairs to Stage V-2 [Hammond & Highland]	155,670	116,753	38,918
10	Add: Additional Tasks / Costs assigned as the sole responsibility of LCRBDC	5,329,390	-	5,329,390
11	Net Total Costs to Complete	23,600,060	11,640,503	11,959,558
12	Less: State Appropriation remaining			4,538,611
13	Final Cost	23,600,060	11,640,503	7,420,947

Appendix B

The body of this report deals with the area of the project that has been the focus throughout its 30 year history, the area between the Illinois border and Interstate 65. However, some concerns have been raised relative to the need for additional levee structures to protect property owners within the watershed but east of Interstate 65 to the Lake County border. This appendix addresses in brief the costs of designing and constructing a levee system along the Little Calumet for that approximately eight mile portion of the flood plain, along with estimates of revenue to be raised for those structures.

The area east of 65 has not been part of the planning process for the original or current project area. As a result, no detailed estimates of the cost of providing levee structures in those areas are available. The Commission – through engineers familiar with the project – has made very preliminary estimates of the cost of providing a levee structure along both sides of the river basin. The cost build-up is based simply on the length of levee structures needed and a standard measure of those costs. The detail for these cost estimates is shown in Table 4.

If such a project were to be pursued, the project would need to be submitted to the federal government and receive Congressional approval, [that is, it would need to be included in the current project definition, or be approved as a separate project under the USACE for federal funding]. Assuming that were to take place, the match rate on the project would be the same as that on the current Little Calumet project, 75% federal and 25% local. Under these assumptions the required total local match for the project would be approximately \$12.5 million.

**Little Calumet River Basin Area
Area East of I-65**

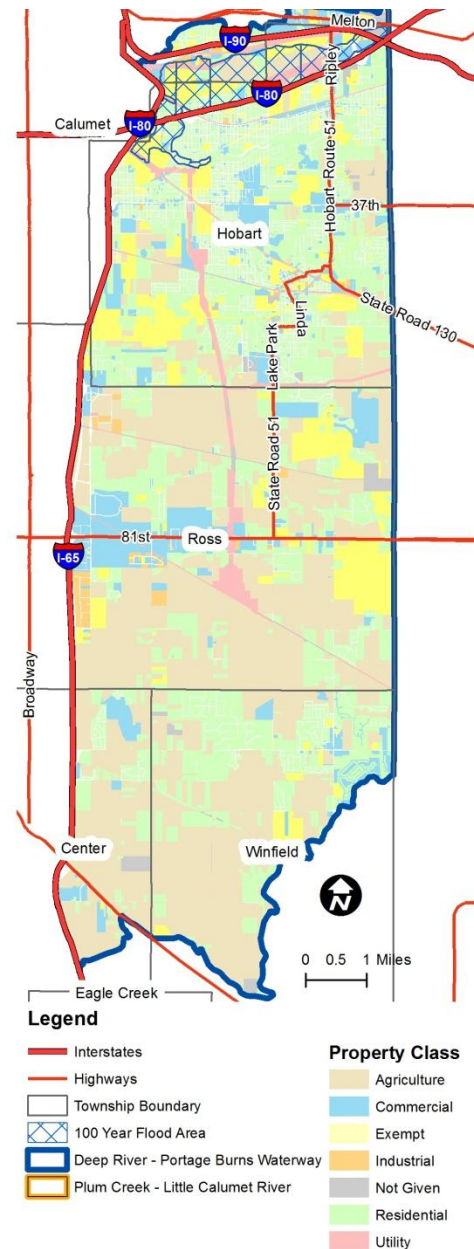


Table 4			
Cost Build-up for a Proposed Levee System for the Little Calumet Watershed East of I-65 [but within Lake County]			
Cost Category	Unit Cost	Quantity	Total Cost
Levee Construction	800 per lineal ft	42,240	\$33,792,000
Engineering Design, Proj Mgmt, Construction	25% of Construction Cost		8,448,000
Property Easements or Acquisition	\$23,580	30	707,400
Utility Relocations ²	\$100,000	10	1,000,000
Bridges/crossing ³	\$1,000,000	2	2,000,000
Sub Total			\$45,947,400
Contingency @ 10%			\$4,594,740
Total			\$50,000,000

If a project East of 65 were approved and moved forward, an equivalent fee could be applied to the parcels in that geography. The table below demonstrates the revenue obtainable if that option were implemented.

Table 5				
Estimated Annual Revenue from a Special Assessment for the Watershed of the Proposed Project on the Little Calumet, East of 65				
Property Class	Parcel Count	Per Parcel Annual Fee	Discount for Collections Non-compliance	Annual Revenue
<i>Agriculture</i>	786	\$ 90	83.5%	65,956
<i>Commercial</i>	2,147	\$ 180	81.4%	349,751
<i>Non Gov Exempt</i>	62			
<i>Govt Owned Exmpt</i>	1,285			
<i>Industrial</i>	195	\$ 360	76.6%	63,803
<i>Not Given</i>	65			
<i>Residential</i>	26,200	\$ 45	82.3%	1,080,564
<i>Utility</i>	338	\$ 360	75.3%	108,404
Total	31,078			1,668,478

It is assumed that the Commission would bond for the \$12.5 million necessary to cover the local match for the East of 65 project area. Because the construction of these levee structures – which are yet to be designed – would of necessity take place over a several year period, it is not possible to give an exact cash flow for the combined budgetary picture that would result from this more inclusive project area. However the estimated budget in Table 6 attempts to provide an estimate of that combined project cash flow.

Table 6										
LCRBDC - Budgeted Expenses for Operations, Maintenance, Loan and Bond Repayment										
Assumes Consolidated Budget for Both Current Project Area and East of 65 Area										
[in millions of constant dollars]										
Budget Category	Yr_1	Yr_2	Yr_3	Yr_4	Yr_5	Yr_6	Yr_7	Yr_8	Yr_9	Yr_10
Annual O&M & Admin										
O & M - Curr Proj Area	0.57	2.03	2.60	2.83	2.96	3.52	3.52	3.52	3.52	3.52
O & M - East of 65 Area					0.25	0.35	0.45	0.45	0.45	0.45
Administrative Budget	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Contingency Reserve	0.85	0.35	0.25	0.15	0.05	0.05	0.00	0.00	0.00	0.00
Total O&M & Admin	1.62	2.58	3.05	3.18	3.46	4.12	4.17	4.17	4.17	4.17
Debt Repayment										
RDA Loan Repayment	2.43	1.47	0.92	0.69	0.50					
Debt Serv - Curr Proj Area	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55
Debt Serv - East of 65	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48
Total Loans & Debt Serv	5.46	4.50	3.95	3.72	3.53	3.03	3.03	3.03	3.03	3.03
Total Annual Budget	7.08	7.08	7.00	6.90	6.99	7.15	7.20	7.20	7.20	7.20
Revenues										
Rev West	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60
Rev East	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67
Total Annual Revenue	7.27	7.27	7.27	7.27	7.27	7.27	7.27	7.27	7.27	7.27
Annual Balance	0.19	0.19	0.26	0.37	0.28	0.12	0.07	0.07	0.07	0.07

This revenue analysis and combined budget projection does not make adjustments for price inflation or project scope change, however it does provide some level of contingency funding for future needs. In addition, it is unlikely that the bonding for the project area East of 65 would need to be undertaken immediately as there are delays required for designation of the project under the USACE regulations and time to design the project structures.