



Kenton C. Ward, CFM
Surveyor of Hamilton County
Phone (317) 776-8495
Fax (317) 776-9628

Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

May 5, 2017

TO: Hamilton County Drainage Board

RE: Williams Creek Drainage Area, Windemere Subdivision Pond Reconstruction

Attached are the plans and drainage shed maps, for the Reconstruction of the Windemere Subdivision Pond. This project was initiated thru the City of Carmel as one identified as drainage issue in the City of Carmel Southwest Clay Annexation Agreement. A petition was not filed on the project.

I have made a personal inspection of the land described in the petition. Upon doing so, I believe that the drain is practicable, will improve the public health, benefit a public highway and be of public utility; and that the costs, damages and expenses of the proposed drain will probably be less than the benefits accruing to the owners of land likely to be benefited.

The attached plans were prepared by Banning Engineering dated November 19, 2015, Project Number 14025.

The Windemere Drain is first described in a report by the Hamilton County Surveyor dated November 5, 1992. The drain was approved by the Board at the meetings of December 21, 1992 (See Drainage Board Minute Book 3, page 73) and March 15, 1993 (See Drainage Board Minute Book 3, page 97).

The City of Carmel petitioned the Board to make improvements to the Pond 1 outlet system at the October 24, 2001 meeting of the Drainage Board. A new culvert with increased capacity was installed across 105th Street; the existing outlet structure was removed; end sections were installed to resolve the grate capacity issue; and riprap was installed for surface stabilization and to reduce the potential of erosion from the high flows that are conveyed from Pond 1 during large rain events. (See Drainage Board Minute Book 14, Pages 3-4). The project was completed by the City of Carmel and the final report for the project was presented and the project accepted at the November 23, 2015 meeting of the Drainage Board. (See Drainage Board Minute Book 16, Page 389).

The South West Clay Township Annexation Master Drainage Plan dated July 27, 2012 prepared by the City of Carmel identified several issues with the Drain:

1. Debris blocking the Pond 1 outlet structure (debris and grate was removed under maintenance).
2. Insufficient pipe and grate capacity of the Pond 1 outlet structure.
3. An existing block wall constructed along the northern border of the development being located within the primary spillway of Pond 1.
4. Overtopping of 106th Street due to limited capacity of the twin culverts under 106th Street in flood events.
5. Concerns about the elevations of Pond 1 having periodically approached the existing top of bank elevation and rear yards at the northeast corner of the pond.
6. Indication that the emergency spillway is frequently active.

The drain was made part of the William Creek Drainage Area at the meeting of the Drainage Board on September 23, 2013. (See Drainage Board Minute Book 15, page 167).

Based on known issues with the drain, the Board invited proposals from several engineering firms for a hydraulic study of the drain. The Board opened the proposals for the hydraulic study of the drain at the meeting of the Drainage Board on February 2, 2014. (See Drainage Board Minute Book 15, page 349). The Contract for this hydraulic study was awarded to Banning Engineering at the meeting of the Drainage Board on March 24, 2014. (See Drainage Board Minute Book 15, page 376).

As explained further below, the findings of the hydraulic study were presented to the Board at the meeting of the Drainage Board on July 28, 2014. (See Drainage Board Minute Book 15, pages 485-491).

The Board signed a contract with Banning Engineering to develop Construction Plans for the improvements at the meeting of the Drainage Board on February 17, 2015. (See Drainage Board Minute Book 16, Pages 100-101).

An update on progress of the design was provided at the meeting of the Drainage Board on February 27, 2015. (See Drainage Board Minute Book 16, pages 263-264)

The Surveyor's report dated May 20, 2016 indicated that the construction plans for the project were complete and that the engineer's estimate for the project totaled \$116,834.25. \$80,666.75 is for the work to improve the lower and larger pond (Pond 1) outlet and \$36,167.50 to re-dress the banks of Pond 1 after the lowering of the normal pool. The \$80,666.75 was to be paid by Hamilton County. The \$36,167.50 was to be paid by the City of Carmel. The use of maintenance funds from the William Creek Drainage Shed to fund the County portion of the project was approved at the meeting of the Drainage Board on May 26, 2015. (See Drainage Board Minute Book 16, Pages 557-558). It was agreed that written commitment for participation from the City of Carmel was needed.

The City of Carmel Board of Public Works and Safety signed the Cost Sharing Agreement on April 19, 2017.

The Board will be presented the Cost Sharing Agreement for full execution at the meeting of the Drainage Board on May 22, 2017.

The June 2014 Hydraulic Study by Banning Engineering identified several issues.

1. When reviewing the original drainage reports a substantial error in the hydrologic and hydraulic calculations was identified. It was apparent that the original design by Stoeppelwerth & Associates, Inc. did not properly model the hydrograph routings used to (1) size the detention facility outfall pipes; (2) size the detention facilities and; (3) establish the appropriate 100-year flood elevations.
2. 106th Street would continue to overtop during a 100-year storm event until the discharge is reduced from the auxiliary spillway on Pond 1.
3. Several structures were allowed to be built with entry elevations lower than the current 100-year pond elevations.
4. Other residences have very little freeboard above the 100-year pond elevations.

At the July 28, 2014 meeting of the Drainage Board, it was stated that several properties had constructed berms between the ponds and the structures to minimize flooding. It was also stated at the meeting that the auxiliary spillway of Pond 1 was undersized. (See Drainage Board Minute Book 15, pages 485-491).

The Pond 1 spillway was noted to be active more frequently that would otherwise be expected.

The June 2014 Hydraulic Study recommended (1) lowering the normal pool elevation of both ponds within the subdivision by 2.3-feet; (2) replacing the existing 12-inch diameter Pond 1 outlet pipe with an 18-inch pipe; (3) installing a secondary outlet between the two ponds; (4) installing an improved outlet control structure on Pond 1 with a trash rack; and (5) improving the spillways for both ponds to the current design standard. The total cost was estimated at \$426,000.00.

Banning Engineering was contracted in February of 2015 to provide construction plans for the reconstruction of the outlet for Pond 1. The construction plans were completed on November 19, 2015. After several meetings with the Windemere HOA in the Fall of 2016, the construction plans were modified slightly and the final plans are now dated December 23, 2016.

The final plans do not include all the recommendations outlined in the June 2014 hydraulic study. The recommendations that are not implemented with the current project may be implemented in the future if needed or desired.

The final scope of work was developed with input from the Drainage Board, the utility coordination process and meetings with the HOA.

The final plan includes the work to: (1) install a secondary outlet from Pond 1; (2) lowering the normal pool of Pond 1 six-inches (6") with the ability to lower the normal pool further in the future; (3) re-dressing the banks of Pond 1 that will be exposed from lowering the normal pool; and (4) improving the Pond 1 spillway to reduce erosion potential. More specifically, the final proposed project includes:

1. Installation of a new primary outlet structure for Pond 1 consisting of a new 3' x 3' drop structure 0.5' below the current normal pool elevation. The drop structure will have the ability to lower the Pond 1 normal pool an additional 2.5' +/- if needed in the future.
2. A 12" reinforced concrete pipe will discharge from new primary outlet structure. A total of 154 linear feet of new pipe will be installed consisting of 42-LF of 12" RCP, 104-LF of 15" RCP and 8-LF of 18" RCP.
3. The last 8 linear feet of the new pipe run will replace the existing 15" pipe in the 106th Street right-of-way that is part of the existing Pond 1 outlet system.
4. The existing outlet piping and existing spillway will remain in place.
5. The Pond 1 auxiliary spillway will be stabilized with high velocity erosion control measures.
6. Erosion control blanket, seeding and riprap will be placed along the banks of Pond 1 after the normal pool of Pond 1 is lowered 6 inches with the installation of the new outlet drop structure.

The proposed reconstruction will lower the maximum water surface elevation of Pond 1 resulting from all rain events up to the 10-year event. The proposed reconstruction will also result in a reduction in the frequency of the activation of the Pond 1 auxiliary spillway by limiting such occurrences to rain events above the 10-year event.

The project will add 42-LF of 12" RCP and 104-LF of 15" RCP. The project will replace the original Str. 829 on the Stoepfelwerth Plans with Str. 102 of the Banning Plans. Also, 8-LF of 15" pipe installed during the initial development of the Windemere Subdivision downstream of St. 829 will be replaced with 18" RCP.

The project will increase the length of the Windemere Drain a net length of 146-LF.

All work will be performed within existing platted easement.

The cost estimate for this reconstruction is as follows:

Reconstruction Costs

Item No	Description	Quantity	Unit	Unit price	Amount
1	3'x3' Box w/Trash Rack & Rubber Boot	1	EA	\$6,500.00	\$ 6,500.00
2	2'x2' Box w/Casting	1	EA	\$2,500.00	\$ 2,500.00
3	2'x2.5' Box w/Casting	1	EA	\$2,750.00	\$ 2,750.00
4	18" RCP outside 5'	8	LFT	\$ 100.00	\$ 800.00
5	15" RCP within 5'	104	LFT	\$ 95.00	\$ 9,880.00
6	12" RCP outside 5'	30	LFT	\$ 75.00	\$ 2,250.00
7	12" RCP within 5'	12	LFT	\$ 85.00	\$ 1,020.00
8	30" Steel Casting w/blocks & grout	6	LFT	\$ 750.00	\$ 4,500.00
9	End Sections	1	EA	\$1,750.00	\$ 1,750.00
10	Auxiliary Spillway Re-grading	1	LS	\$5,000.00	\$ 5,000.00
11	P300 ECB	67	SYD	\$ 25.00	\$ 1,675.00
12	Shormax	60	SFT	\$ 40.00	\$ 2,400.00
13	New 4' Sidewalk including 4" Aggregate	480	SFT	\$ 25.00	\$12,000.00
14	Sawcut & remove 120' of sidewalk	1	LS	\$2,000.00	\$ 2,000.00

15	Remove 15" RCP	8	LFT	\$ 15.00	\$ 120.00
16	Rework gate	1	LS	\$2,500.00	\$ 2,500.00
17	Seeding & Mulch	1	LS	\$12,500.00	<u>\$12,500.00</u>
			Total		\$70,145.00
			Contingencies 15%		<u>\$10,521.75</u>
			Net Total		\$80,666.75

Pond Treatment Costs

Item No.	Description	Quantity	Unit	Unit Price	Amount
1	S150BN EB8	885	SYD	\$ 10.00	\$ 8,850.00
2	6" Rip Rap	13	Tons	\$200.00	\$ 2,600.00
3	Pond Bank Grading	1	LS	\$10,000.00	\$10,000.00
4	Seeding	1	LS	\$10,000.00	<u>\$10,000.00</u>
			Total		\$31,450.00
			Contingencies 15%		<u>\$ 4,717.50</u>
			Net Total		\$36,167.50

The project will be funded by both Hamilton County and City of Carmel. \$80,666.75 will be paid by Hamilton County from the Williams Creek Watershed Maintenance Fund as allowed under IC-36-9-27-45.5. \$36,167.50 will be paid by the City of Carmel.

The county will bid this project and administer the construction contract.

The following tracts are affected by the project:

Parcel	Owner	Description
17-13-09-00-03-019.000	Windemere Homeowners Assoc. Inc.	S9 T17 R3 Windemere Sec. 1 CA1
17-13-09-00-03-001.000	Kheradiya, Rajan S & Nisha S	S9 T17 R3 Windemere Sec. 1 Lot 1
17-13-09-00-03-002.000	Hollingsworth, Samuel	S9 T17 R3 Windemere Sec. 1 Lot 2
17-13-09-00-03-003.000	Ehman, Mark W & Karen O	S9 T17 R3 Windemere Sec. 1 Lot 3
17-13-09-00-03-004.000	Tapiero, Jacques Trustee	S9 T17 R3 Windemere Sec. 1 Lot 4
17-13-09-00-03-005.000	Lasek, Kelley C & Dana H	S9 T17 R3 Windemere Sec. 1 Lot 5
17-13-09-00-03-006.000	Yount, David B & Carol F.	S9 T17 R3 Windemere Sec. 1 Lot 6
17-13-09-00-03-007.000	Finkelmeier, Williams R & Terri A.	S9 T17 R3 Windemere Sec. 1 Lot 7
17-13-09-00-03-008.000	Vore, Charles Scott & Pamela Ann	S9 T17 R3 Windemere Sec. 1 Lot 8
99-99-99-99-999.005	City of Carmel, Dept. of Administration	S9 T17 R3 106 th Street

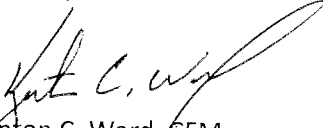
Parcels benefitted by this drain are currently assessed for the Williams Creek Watershed. Therefore no changes in the current assessment shall be required.

I believe no damages will result to the landowners. Damages are set at zero (0).

There are no permits required for this project from the US Army Corps of Engineers (COE), Indiana Department of Natural Resources (IDNR) or the Indiana Department of Environmental Management (IDEM). A permit is required from the City of Carmel to close, remove and reconstruct the existing sidewalk along 106th Street for the installation of the new secondary outlet pipe from Pond 1.

I recommend that the Board set a hearing for this proposal for June 26, 2017.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenton C. Ward". The signature is fluid and cursive, with a large loop at the end.

Kenton C. Ward, CFM
Hamilton County Surveyor

KCW/pll

Williams Creek, Windemere Subdivision Pond Reconstruction

Cost Sharing Agreement

*Carmel pays \$36,167.50 & County pays \$80,666.75 from Williams Creek maintenance fund.

*No change in current maintenance assessment.

Damages are set at zero.

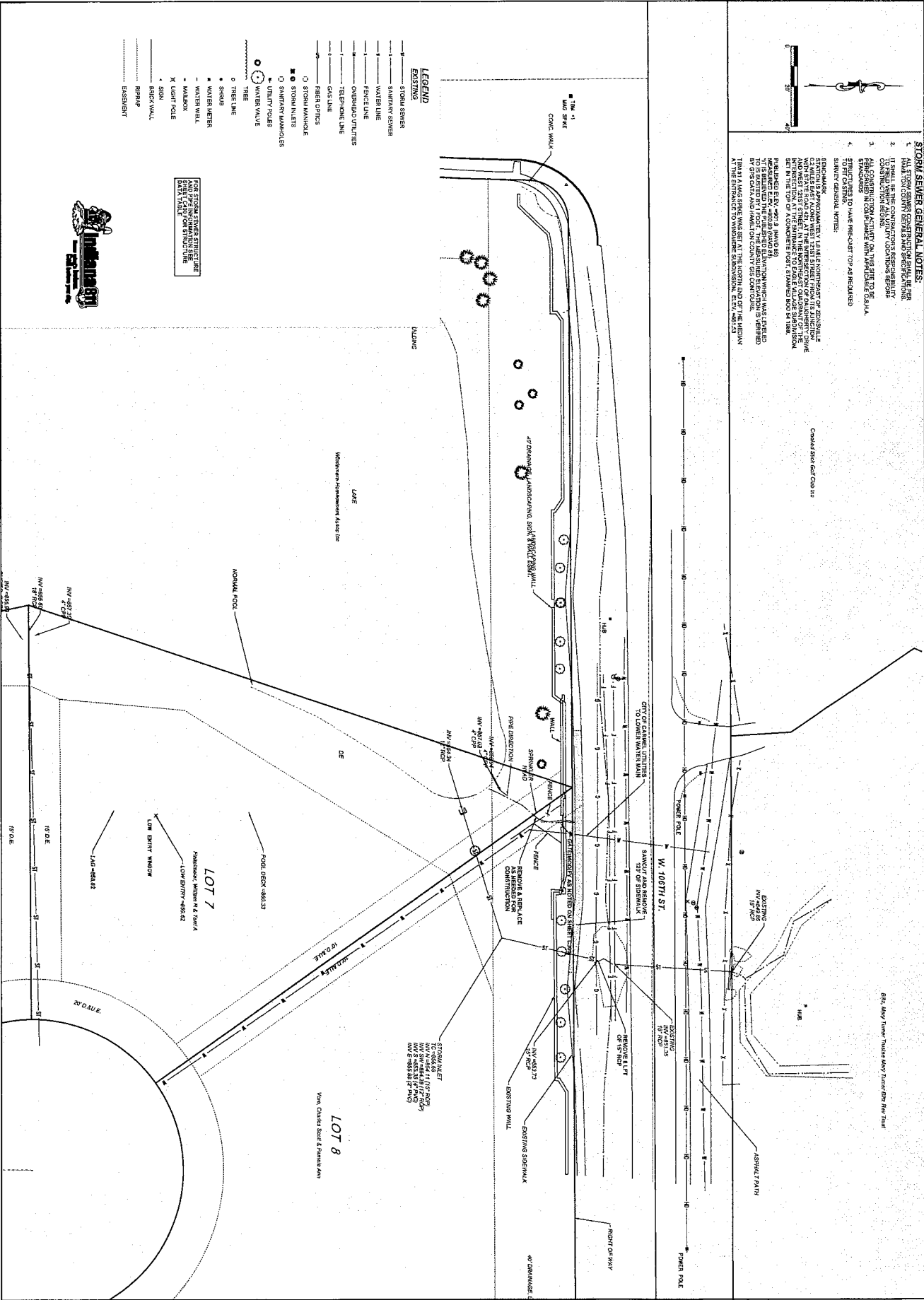
Reconstruction consist of 154' of tile (8' is being replaced and 146' is new footage).

Work to be completed within existing easements.

Hearing: 06/26/17

Parcel	Owner	Description	Benefit	MntAsmt	Reconst	Percent
17-13-09-00-03-019.000	Windemere Homeowners Assoc. Inc.	S9 T17 R3 Windemere Sec. 1 CA 1	*	*	*	*
17-13-09-00-03-001.000	Kheradiya, Rajan S & Nisha S	S9 T17 R3 Windemere Sec. 1 Lot 1	*	*	*	*
17-13-09-00-03-002.000	Hollingsworth, Samuel	S9 T17 R3 Windemere Sec. 1 Lot 2	*	*	*	*
17-13-09-00-03-003.000	Ehman, Mark W & Karen O	S9 T17 R3 Windemere Sec. 1 Lot 3	*	*	*	*
17-13-09-00-03-004.000	Tapiero, Jacques Trustee	S9 T17 R3 Windemere Sec. 1 Lot 4	*	*	*	*
17-13-09-00-03-005.000	Lasek, Kelley C & Dana H	S9 T17 R3 Windemere Sec. 1 Lot 5	*	*	*	*
17-13-09-00-03-006.000	Yount, David B & Carol F	S9 T17 R3 Windemere Sec. 1 Lot 6	*	*	*	*
17-13-09-00-03-007.000	Finkelmeier, William R & Terri A	S9 T17 R3 Windemere Sec. 1 Lot 7	*	*	*	*
17-13-09-00-03-008.000	Vore, Charles Scott & Pamela Ann	S9 T17 R3 Windemere Sec. 1 Lot 8	*	*	*	*
99-99-99-99-99-999.005	City Of Carmel, Dept. of Administration	S9 T17 R3 106th St.	*	*	*	*

- STORM SEWER GENERAL NOTES:**
1. ALL STORM SEWER CONSTRUCTION SHALL BE PERMITTED TO BE COMPLETED WITHIN THE PERIOD OF 180 DAYS FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION.
 2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF CARMEL, INDIANA, DEPARTMENT OF PUBLIC WORKS, DIVISION OF PUBLIC UTILITIES, STANDARD SPECIFICATIONS FOR CONSTRUCTION OF STORM SEWER SYSTEMS, 2013 EDITION.
 3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF CARMEL, INDIANA, DEPARTMENT OF PUBLIC WORKS, DIVISION OF PUBLIC UTILITIES, STANDARD SPECIFICATIONS FOR CONSTRUCTION OF STORM SEWER SYSTEMS, 2013 EDITION, SECTION 100.00, 100.01, 100.02, 100.03, 100.04, 100.05, 100.06, 100.07, 100.08, 100.09, 100.10, 100.11, 100.12, 100.13, 100.14, 100.15, 100.16, 100.17, 100.18, 100.19, 100.20, 100.21, 100.22, 100.23, 100.24, 100.25, 100.26, 100.27, 100.28, 100.29, 100.30, 100.31, 100.32, 100.33, 100.34, 100.35, 100.36, 100.37, 100.38, 100.39, 100.40, 100.41, 100.42, 100.43, 100.44, 100.45, 100.46, 100.47, 100.48, 100.49, 100.50, 100.51, 100.52, 100.53, 100.54, 100.55, 100.56, 100.57, 100.58, 100.59, 100.60, 100.61, 100.62, 100.63, 100.64, 100.65, 100.66, 100.67, 100.68, 100.69, 100.70, 100.71, 100.72, 100.73, 100.74, 100.75, 100.76, 100.77, 100.78, 100.79, 100.80, 100.81, 100.82, 100.83, 100.84, 100.85, 100.86, 100.87, 100.88, 100.89, 100.90, 100.91, 100.92, 100.93, 100.94, 100.95, 100.96, 100.97, 100.98, 100.99, 100.100.
 4. STRUCTURES TO HAVE PRECAST TOP AS REQUIRED BY THE STANDARD SPECIFICATIONS.
- PARALLEL ELEVATION: 496.3 (MINIMUM)
 FINISHED ELEVATION: 496.3 (MINIMUM)
 17 IS BELIEVED THE PROPOSED ELEVATION WAS DETERMINED BY GIS DATA FROM HAMILTON COUNTY GIS CONTIGUE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ELEVATION AT THE ENTRANCE TO WINDEMERE SUBDIVISION, 1701 W. 100TH ST.



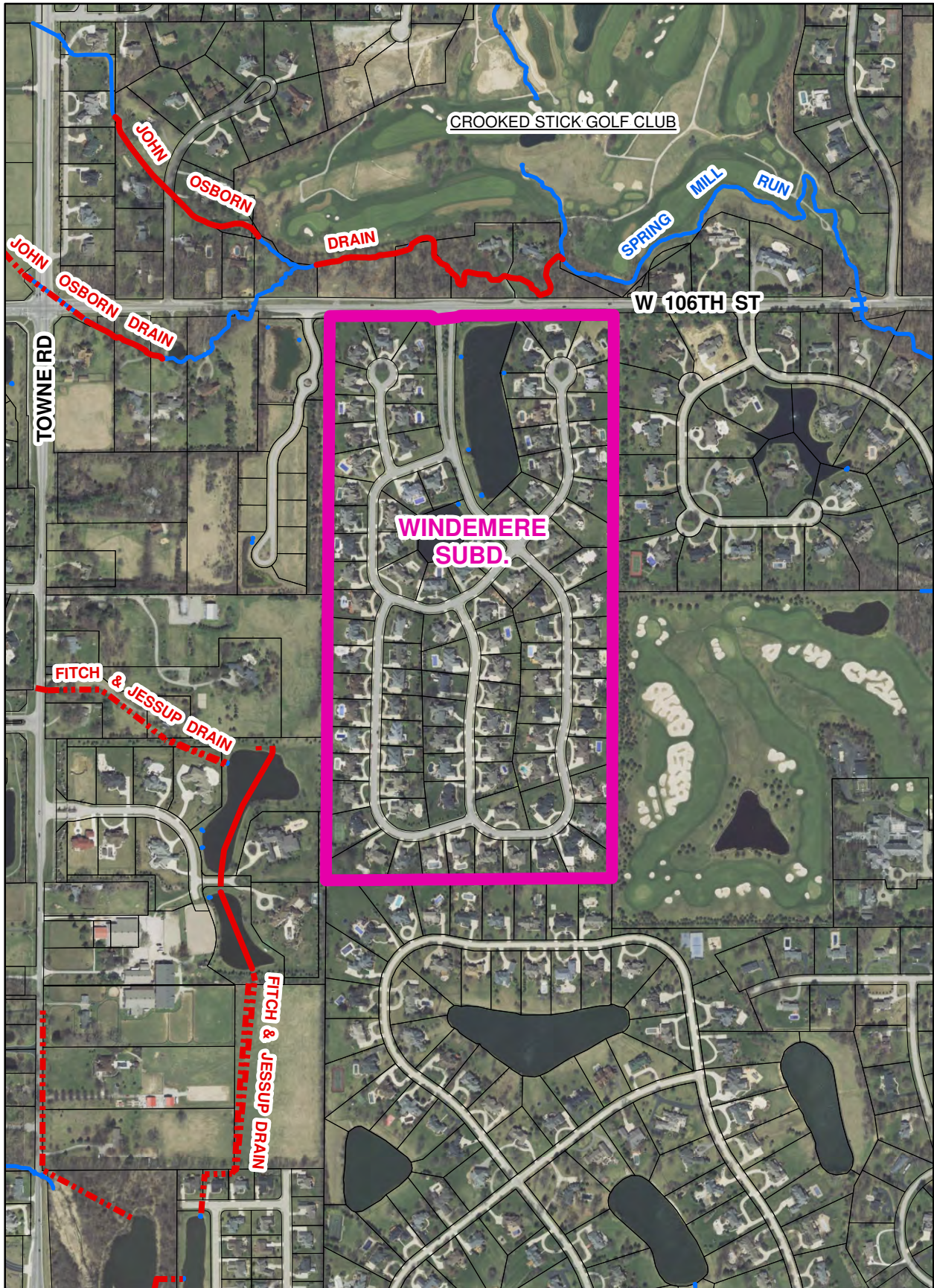
BANNING ENGINEERING
 853 COLUMBIA ROAD, SUITE #101
 PLAINFIELD, IN 46168
 BUS: (317) 707-3700, FAX: (317) 707-3800
 E-MAIL: Banning@BanningEngineering.com
 WEB: www.BanningEngineering.com



Topo and Demolition Plan
 Windemere Subdivision Pond Reconstruction
 CLAY TOWNSHIP
 CARMEL, INDIANA (HAMILTON COUNTY)

Design:	Str:	Revised:	Date:
JM	A	PER HOA COMMENTS	12-23-16
Draw:	JV		
Check:	JM		
Scale:			
Date:			11-15-16

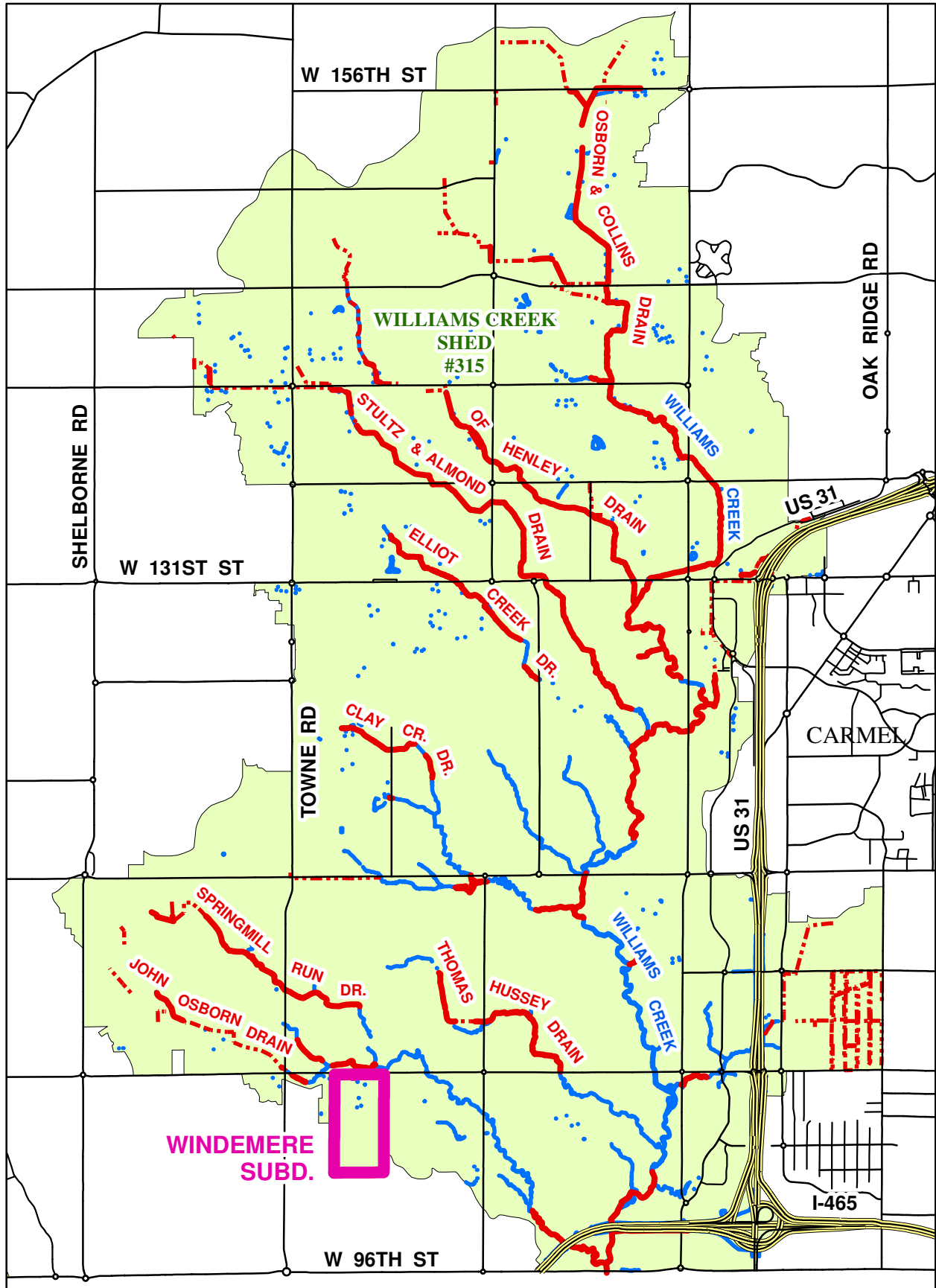
WINDEMERE SUBDIVISION





Printing Date: 5/20/2016
Prepared By: Darren Wilson, GISP
Hamilton County Surveyor's Office
One Hamilton County Square, Ste 188
Noblesville, IN 46060
317-776-8495

WILLIAMS CREEK SHED #315

Showing the Location of the Windemere Subdivision



Printing Date: 5/20/2016
Prepared By: Darren Wilson, GISP
Hamilton County Surveyor's Office
One Hamilton County Square, Ste 188
Noblesville, IN 46060
317-776-8495

-  WINDEMERE
-  WILLIAMS CREEK SHED

R 10/

COST SHARING AGREEMENT FOR RECONSTRUCTION
OF DETENTION POND IN WINDEMERE SUBDIVISION



This Agreement entered into by and between the Hamilton County Drainage Board ("the Drainage Board") and the City of Carmel, acting by its Board of Public Works and Safety ("the City") on the dates set out herein.

WHEREAS, the Windemere Subdivision is served by a detention pond ("the Pond"), and the Pond discharges into the Williams Creek regulated drain, which is controlled and maintained by the Drainage Board; and,

WHEREAS, the Windemere Subdivision is within the City; and,

WHEREAS, the Drainage Board and the City are desirous of entering into an Agreement to split the construction cost of a Project which will: a) lower the discharge pipe from the Pond by six (6') inches, to permit the Pond to retain more excess storm water in a significant rain event; and b) to seed and provide erosion control for the portion of the bank of the pond which becomes exposed because of lowering the water table in the pond ("the Project"); and,

WHEREAS, the Project will be divided into two parts which are: a) to construct a new discharge pipe and other improvements from the Pond, which will permit the Pond to retain more excess storm water in a significant rain event ("the Drainage Board Project"); and b) to seed, grade and provide erosion control for the portion of the bank of the Pond which becomes exposed because of lowering the water table in the Pond ("the City Project"); and,

WHEREAS, the parties are desirous of entering into an Agreement to construct the Project and to divide the cost associated with the Project.

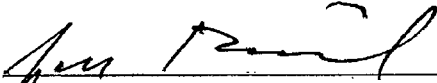
IT IS THEREBY AGREED as follows:

1. The Hamilton County Surveyor's Office, on behalf of the Drainage Board, shall complete the design of the Project, competitively bid the Project, and manage the Project.
2. The preliminary engineer's estimate of the cost of the Project is attached as Exhibit A, which estimates the cost of the Drainage Board Project to Eighty Thousand Six Hundred Sixty-six Dollars and Seventy-five Cents (\$80,666.75) and the cost of the City Project to be Thirty-six Thousand One Hundred Sixty-seven Dollars and Fifty Cents (\$36,167.50).
3. The bid specifications for the Project shall divide the cost of the Drainage Board Project and the City Project as set out on Exhibit A, and the parties agree to pay the cost associated with their portion of the Project.
4. Within forty-five (45) days of bid, the City shall pay to the Drainage Board, the cost of the City Project as defined in the bid.
5. The Drainage Board shall pay its cost of the Project from the Williams Creek Maintenance Fund.
6. It is agreed between the parties that the Drainage Board shall complete the plans for the Project and cause it to be bid on or before the 24th day of July, 2017, with the anticipated completion date of the Project being on the 31st day of December, 2017.

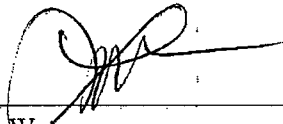
ALL OF WHICH IS AGREED by the Drainage Board and the City on the dates set out herein.

APPROVED by the Board of Public Works and Safety of the City of Carmel this
19 day of April, 2017.

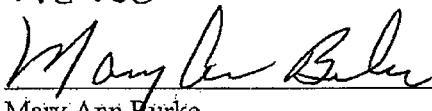
BOARD OF PUBLIC WORKS AND SAFETY
OF THE CITY OF CARMEL



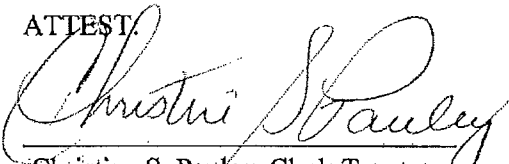
Mayor James Brainard



Lori Watson
Member



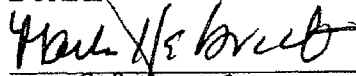
Mary Ann Burke

ATTEST


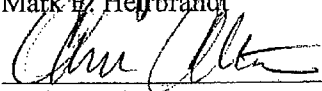
Christine S. Pauley, Clerk-Treasurer

APPROVED by the Hamilton County Drainage Board this 22 day of May,
2017.

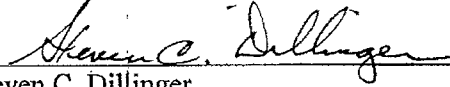
HAMILTON COUNTY DRAINAGE
BOARD



Mark E. Heibrandt

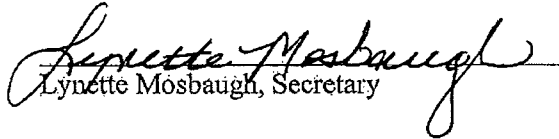


Christine Altman



Steven C. Dillinger

ATTEST:



Lynette Mosbaugh, Secretary

ESTIMATED CONSTRUCTION COST OPINION

for
Windemere Reconstruction
Recommended Solution
Hamilton County, Indiana

Date: 5/19/2016
By: JLM

Item No.	Description	Quantity	Unit	Unit Price	Amount
1	3' x 3' Box w/ Trash Rack & Rubber Boot	1	EA	\$ 6,500.00	\$8,500.00
2	2' x 2' Box w/ Casting	1	EA	\$ 2,500.00	\$2,500.00
3	2' x 2.5' Box w/ Casting	1	EA	\$ 2,750.00	\$2,750.00
4	18" RCP outside 5'	8	LFT	\$ 100.00	\$800.00
5	15" RCP within 5'	104	LFT	\$ 95.00	\$9,880.00
6	12" RCP outside 5'	30	LFT	\$ 75.00	\$2,250.00
7	12" RCP within 5'	12	LFT	\$ 85.00	\$1,020.00
8	30" Steel Casing w/ blocks & grout	8	LFT	\$ 750.00	\$4,500.00
9	End Sections	1	EA	\$ 1,750.00	\$1,750.00
10	Auxiliary Spillway Re-Grading	1	LS	\$ 5,000.00	\$5,000.00
11	P300 ECB	87	SYD	\$ 25.00	\$1,675.00
12	Shomax	60	SFT	\$ 40.00	\$2,400.00
13	New 4' Sidewalk including 4" Aggregate	480	SFT	\$ 25.00	\$12,000.00
14	Sawcut & remove 120' of Sidewalk	1	LS	\$ 2,000.00	\$2,000.00
15	Remove 15" RCP	8	LFT	\$ 15.00	\$120.00
16	Rework gate	1	LS	\$ 2,500.00	\$2,500.00
17	Seeding & Mulch	1	LS	\$ 12,500.00	\$12,500.00
Total					\$ 70,145.00
Contingencies					15% \$10,521.75
Net Total					\$ 80,666.75

Windemere Reconstruction
Pond Treatment Alternative
Hamilton County, Indiana

Item No.	Description	Quantity	Unit	Unit Price	Amount
1	S150BN ECB	885	SYD	\$ 10.00	\$8,850.00
2	6" Riprap	13	Tons	\$ 200.00	\$2,600.00
3	Pond Bank Grading	1	LS	\$ 10,000.00	\$10,000.00
4	Seeding	1	LS	\$ 10,000.00	\$10,000.00
Total					\$31,450.00
Contingencies					15% \$4,717.50
Net Total					\$ 36,167.50

Joseph L. Miller, P.E. CFM

Project Engineer

Banning Engineering PC

853 Columbia Rd, Suite 101 | Plainfield, IN 46168 | Ph: (317) 707-3736 | Fax: (317) 707-3636

jmiller@banning-eng.com | BanningEngineering.com



Over 20 Years of Making Your Project Our Priority