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May 16, 2019

TO: Hamilton County Drainage Board

RE: Ellis Barker Drain Reconstruction

Attached are the petition, plans, schedule of assessments and drainage shed map, for the Ellis Barker Drain Reconstruction Project.

I have made a personal inspection of the Drain. Upon doing so, I believe that the drain is practicable; will improve the public health; will 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, dated March 29, 2019, were prepared by the Hamilton County Surveyor's Office. The plans are for the conversion of a section of the Drain from tile to open ditch; dredging a section of the Drain that is an existing open ditch; relocation of a section of the Drain that includes conversion from tile to open ditch; and construction of a new arm of the drain that will be an open ditch. The project will improve the flow characteristics of the Drain.

### ***History***

The Ellis Barker Drain is located in both Westfield-Washington and Noblesville Townships; Sections 20, 21, 39, and 30 of Township 19 North Range 4 East. The Drain consists of the Ellis Barker Drain, Arm 1 of the Ellis Barker Drain, Arm 2 of the Ellis Barker Drain, the McKnight Extension, and the Marathon Pipeline Extension.

The Ellis Barker Drain, Arm 1, and Arm 2 were established per a Viewers Report dated July 5, 1905 and approved by the Hamilton County Commissioners.

An extension to the Drain known as the Marathon Pipeline Extension was approved at the May 24, 2010 meeting of the Drainage Board (Hamilton County Drainage Board Meeting Minutes Book 12, pages 547-548).

An extension to the Drain known as the McKnight Extension was approved at the July 25, 2011 meeting of the Drainage Board (Hamilton County Drainage Board Meeting Minutes Book 13, pages 484-485).

The Ellis Barker Drainage Shed was combined with the Sly Run Drainage Shed at the May 23, 2011 meeting of the Drainage Board (Hamilton County Drainage Board Meeting Minutes Book 13, pages 399-400).

A topographic survey was completed by Weihe Engineers between March 9<sup>th</sup> and March 23<sup>rd</sup>, 2018 and provided to the Surveyor's Office on April 6, 2018.

A topographic survey was completed by Stoepelwerth & Associates as part of the Lindley Run Development project. This survey was used by Stoepelwerth & Associates to design the tile portion of this reconstruction project further described in other sections of this report.

### Work Order History

There has been a total of 13 drainage complaints filed with the Surveyor's Office since 2000.

DC#	Date	Description	Location
DC-2000-00012	4/7/2000	Three (3) Holes in Tile	S of 196th St & E of Grassy Branch Rd
DC-2001-00216	11/1/2001	Two (2) Locations where Tile is broken	3801 196th St
DC-2002-00438	10/15/2002	Blow Holes	N of 191st St & W of Moontown Rd
DC-2003-00078	3/19/2003	Standing Water in Rear Yard	Rear Yard of 3801 E 196th St
DC-2006-00479	12/15/2006	Blow Holes West of Open Ditch	S of 196th St & W of Moontown Rd
DC-2007-00416	10/30/2007	Sink Hole	196th St & Moontown Rd
DC-2008-00197	5/8/2008	Flowing on Surface of Property	SW of 296th St & Hinkle Rd
DC-2009-00046	3/2/2009	Blow Hole	S of 196th St & W of Grassy Branch Rd
DC-2009-00131	4/13/2009	Blow Hole & Surface Water	196th St & Grassy Branch Rd

DC-2012-00003	1/6/2012	Blow Hole	W Side of Field @ 196th St & Moontown Rd
DC-2013-00142	4/16/2013	Blow Holes	S of 196th St & W of Moontown Rd
DC-2015-00383	7/27/2015	Blow Hole	S of 196th St & W of Moontown Rd
DC-2016-00062	3/10/2016	Blow Hole	S of 196th St & N of Grassy Branch Rd

There have been sixteen (16) work orders completed on the drain since 2000. They are as follows:

Work Order Number	Type of Repair	Cost	Date Complete
WO-2000-00071	Three (3) Blow Holes	\$904.00	4/18/2000
WO-2001-00178	Several Blow Holes	\$1,707.70	11/8/2001
WO-2003-00055	Standing Water	\$515.50	6/2/2003
WO-2007-00022	Repair Several Large Blow Holes	\$3,436.25	11/8/2007
WO-2008-00194	Root Cut; Jet and Vac	\$1,093.75	7/2/2008
WO-2008-00147	Remove Blockage & Repair Blow Hole	\$1,953.25	7/2/2008
WO-2010-00006	Blow Hole & Surface Water	\$543.80	4/14/2010
WO-2012-00050	Three (3) Blow Holes	\$326.00	2/11/2012
WO-2014-00049-A	Repair Several Blow Holes	\$16,178.60	5/28/2015
WO-2014-00049-B	Repair Several Blow Holes	\$11,908.86	5/28/2015
WO-2014-00049-C	Repair Several Blow Holes	\$7,672.15	5/28/2015
WO-2014-00049-D	Repair Several Blow Holes	\$945.53	5/28/2015
WO-2014-00049-E	Repair Several Blow Holes	\$3,136.11	5/28/2015
WO-2015-00412	Several Blow Holes	\$1,110.22	1/6/2016
WO-2016-00100	Blow Hole	\$873.11	4/25/2016

WO-2016-00226	Blow Hole	\$494.15	6/16/2016
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There are no outstanding work orders for this Drain at this time.

***Existing Condition***

The Ellis Barker Drain consists of both tile and open ditch. The drain functions but is undersized by today's standards. A majority of the properties served by the drain have standing water issues that affect crop production. The tile is at least 114-years old and has exceeded the expected service life of such a tile. Routine maintenance is required for the tile to function. The open ditch portion of the Drain is overgrown with vegetation and sediment has accumulated in the channel. This sediment compromises the hydraulic capacity of the channel and also limits (or prohibits) the capacity of private field tiles that discharge to the open ditch and the ability of these tiles to effectively drain the root zone of the adjacent agricultural lands. An adequately drained root zone relieves stress on plants and also provides aeration to the root system, which potentially increases production/yield of the acreage.

Water ponds on the surface at the east property line of the Goins property.

A wetland delineation was by Williams Creek Consulting for M/I Homes of Indiana, LP in 2016. The limits of the wetland on the M/I Homes Indiana, LP property were included in the CAD file provided by Weihe Engineers on April 6, 2016 as part of the topographic survey work.

A wetland delineation dated December 14, 2017 and performed by Earth Source, Inc. for Lindley Run Development, LLC identified three wetland areas on the Goins property.

***Reconstruction Project***

The improvement project will reconstruct the Drain between Stations 11+86 and 69+40.

The Ellis Barker Drain between Station 0+00 and 11+86, the Ellis Barker Drain between Station 69+40 and Station 78+40 (the Marathon Pipeline Extension), and Arm 1 of the Ellis Barker Drain will not be affected by this project.

The project will re-establish the flowline of the existing open ditch portion of the Drain between Stations 48+76 and 69+40 to improve the capacity of the Drain and to provide positive drainage to any tiles that outlet to the Drain.

The project also creates a new arm to the Ellis Barker Drain to serve the proposed Northpoint Development at the northwest corner of 196<sup>th</sup> Street and Grassy Branch Road.

***Demolition***

Clearing of existing trees on the M/I Homes Indiana, LP property and the Johnson property has already been completed by a County maintenance contractor. A total of 3.23-acres was cleared. As of the date of this report, the value of this work is equal to the following:

Contractor	Type	Amount
Tri-State Forestry Services, Inc.	Proposal	\$38,000.00
Van Horn Excavating	Invoices to Date	\$47,847.00
	Total	\$85,847.00

Due to the fact that the work is not yet completed, the total value of the work is estimated to be \$100,000.00.

The existing Ellis Barker tile will be replaced between Station 25+05 and Station 48+76. The existing Ellis Barker tile between Station 11+86 and 25+05 and the entirety of Arm 2 (Stations 0+00 and 6+06) will be abandoned in place and demolished as development of the Lindley Run subdivision progresses.

*Ellis Barker Drain*

The project will include the installation of the following as new tile: 84-LF of 12" RCP; 28-LF of 15" RCP; 212-LF of 30" RCP; 462-LF of 36" RCP; 1,131-LF of 42" RCP; 560-LF of 48" RCP; 2, 48" RCP End Sections; 1, Outlet Control Structure; 4, 48" Manholes with casting; 4, 60" Manholes with casting; 4, 72" Manholes with casting; 2, 84" manholes with casting; 2, 96" manhole with casting; 1, 108" manhole with casting.

The new tile was sized for runoff rates from the watersheds upstream of Grassy Branch Road, upstream of 196<sup>th</sup> Street, and the portion of the Lindley Run development that is proposed to drain to the new tile. The total watershed served by the new tile is 246.01-acres. The watershed is comprised of 177.73-acres of offsite watershed that will be managed with future development; 49.32-acres from the Lindley Run development; and 18.96-acres of offsite acreage that is controlled by an existing roadway culvert. Assuming detention is provided for the future development area of 227.05-acres (177.73-acres offsite and 49.32-acres onsite), the runoff from these areas will be 22.71-CFS during the 10-year storm event and 68.12-CFS during the 100-year storm event. The 18.96-acre off-site area that is controlled by the existing roadway culvert generates 8.79-CFS during the 100-year storm event. Adding this base flow to the managed release rates results in peak flows of 31.5-cfs during the 10-year storm event and 76.91-CFS during the 100-year storm event. The tile is sized incrementally as more watershed is served by the new tile. The proposed detention pond on Lindley Run will have peak discharges equal to 24.27-CFS during the 10-year storm event and 72.23-CFS during the 100-year storm event. These discharges satisfy the maximum release requirement.

The project will include the installation of 2,405-LF of new 4-bottom ditch with 3:1 side slopes.

At the most restrictive point of the proposed open ditch, a point where stormwater runoff conveyed in the open ditch stages out of the banks at the shallowest depth, the capacity of the proposed open ditch is 188.37-CFS at a depth of 3.61-feet. The runoff from the existing 10-year storm at this point, Station 55+16, is 114-CFS and will flow below the proposed top of bank at a depth of 2.91-feet. With future development upstream of this point the stormwater runoff conveyed by the proposed open ditch will be reduced from the existing condition due to management of the stormwater runoff by detention facilities.

The project will include the installation of 763-LF of 5-bottom open ditch with 4:1 side slopes and erosion control blankets. This open ditch is located within the footprint of a future wet bottom detention facility of the Lindley Run subdivision. This open ditch will be expanded in the future by the developer of the Lindley Run subdivision and will cease to function as an open ditch at that time.

The project will include the dredging of 2,043-lf of the existing open ditch to a point approximately 35-lf upstream of the current end of the McKnight extension and start of the Marathon Pipeline Extension. 1,490-LF of the total length is both dredging and bank work. 553-LF of this work is bank work only.

As previously stated, the existing Ellis Barker tile between Station 11+86 and Station 25+05 will be abandoned in place. Until such time as the tile is demolished with the Lindley Run development, a positive drainage outlet needs to be provided. 61-LF of 18" dual wall, non-perforated HDPE tile with 3, 18"x18" 45-degree fittings will be installed and discharged to the last manhole just upstream of the new open ditch.

There are three instances where existing surface water flow must be maintained to the new open ditch. One surface swale is 42-LF of 5-foot bottom with 4:1 side slopes. The other two comprise a total of 222-LF of V-bottom swale with 10:1 side slopes.

Two tile outlets for existing private drains will be constructed with this project. The tile outlets will consist of 20-LF of 8" CMP and 20-LF of 10" CMP. As part of the installation of one of two tile outlets, it is necessary to remove approximately 46-LF of an existing 6" tile.

The cost estimate includes the installation of 12 surface water pipes per HCSO Detail OD-8. These will be installed on an "as-needed" basis.

The soil excavated with the project will be placed within the adjacent regulated drain easement on the north side of the open ditch and other places as approved by the property owners.

The cost estimate also includes the demolition of the existing tile. A total of 2,121-LF of the existing tile is not located along the alignment of the proposed open ditch and must be removed in a separate operation.

The project will also include the installation of rip-rap stabilization at surface water outlets to the new open ditch (a total of 233-tons of revetment rip-rap); clearing of any remaining small trees and woody vegetation in the Operational Area; maintenance of traffic; four fence removals and repairs; seeding for a 20-foot filter strip as noted in the Filter Strip section of this report; seeding and other stabilization of disturbed soil areas; and other ancillary construction.

**Construction Cost Estimate**

The estimated cost of construction is outlined below. There is a Base Bid and an Alternate Bid. The Alternate Bid is for the work associated with the installation of the proposed tile system. The Base Bid includes two estimates. One estimate is for the work associated with the approval of Scofield Farms subdivision and will be paid by M/I Homes of Indiana, LP. The other part of the Base Bid is for all other work associated with this reconstruction project.

<i>Reconstruction of the Ellis Barker Regulated Drain - Base Bid</i>					
Line Item	Description	Unit	Quantity	Unit Cost	Total Cost
BB-1	Demolish existing regulated drain	LF	1185	\$ 35.00	\$ 41,475.00
BB-2	Fence Removal and Repair	EA	2	\$ 1,250.00	\$ 2,500.00
BB-3	4-foot bottom ditch with 3:1 side slopes	LF	1478	\$ 70.00	\$ 103,460.00
BB-4	Construction Entrance	EA	1	\$12,000.00	\$ 12,000.00
BB-5	Filter Strip	ACRE	1.43	\$ 3,000.00	\$ 4,290.00
BB-6	Rip-Rap Revetment	TON	164	\$ 55.00	\$ 9,020.00
BB-7	Seeding	ACRE	3.05	\$ 3,000.00	\$ 9,150.00
BB-8	10"x20' CMP Pipe with Animal Guard	EA	1	\$ 1,750.00	\$ 1,750.00
BB-9	18" Dual wall, non-perforated, HDPE	LF	61	\$ 50.00	\$ 3,050.00
BB-10	18"x18" Dual wall HDPE fittings	EA	3	\$ 500.00	\$ 1,500.00
BB-11	Surface Water Pipes	EA	8	\$ 1,600.00	\$ 12,800.00
BB-12	V-Bottom surface water swale with 10:1 side slopes	LF	222	\$ 60.00	\$ 13,320.00
BB-13	Clearing	LS	1	\$ 3,750.00	\$ 3,750.00
BB-14	Remove existing 6" Tile	LF	46	\$ 35.00	\$ 1,610.00
BB-15	Existing Open Ditch Bank Work	LF	553	\$ 10.00	\$ 5,530.00
BB-16	8"x20' CMP Pipe with Animal Guard	EA	1	\$ 1,500.00	\$ 1,500.00
BB-17	Dredge Existing Open Ditch	LF	1129	\$ 12.50	\$ 14,112.50
				<b>Subtotal</b>	<b>\$ 240,817.50</b>
				<b>15% Contingency</b>	<b>\$ 36,122.63</b>
				<b>Total</b>	<b>\$ 276,940.13</b>

<i>Work Associated with Scofield Farms Development - Base Bid</i>					
BB-MI-1	Demolish existing regulated drain	LF	936	\$ 35.00	\$ 32,760.00
BB-MI-2	4-foot bottom ditch with 3:1 side slopes	LF	926	\$ 52.00	\$ 48,152.00
BB-MI-3	Filter Strip	ACRE	0.59	\$ 3,000.00	\$ 1,770.00
BB-MI-4	Rip-Rap Revetment	TON	69	\$ 55.00	\$ 3,795.00
BB-MI-5	Seeding	ACRE	1.26	\$ 3,000.00	\$ 3,780.00
BB-MI-6	Surface Water Pipes	EA	4	\$ 1,600.00	\$ 6,400.00
BB-MI-7	Dredge Existing Open Ditch	LF	362	\$ 12.50	\$ 4,525.00
BB-MI-8	5-bottom surface water swale with 4:1 side slopes	LF	42	\$ 60.00	\$ 2,520.00
BB-MI-9	Clearing	LS	1	\$ 1,000.00	\$ 1,000.00
				<b>Subtotal</b>	<b>\$ 104,702.00</b>
				<b>15% Contingency</b>	<b>\$ 15,705.30</b>
				<b>Total</b>	<b>\$ 120,407.30</b>

<i>Reconstruction of the Ellis Barker Regulated Drain - Alternate Bid</i>					
Line Item	Description	Unit	Quantity	Unit Cost	Total Cost
AB-1	Fence Removal and Repair	EA	2	\$ 1,250.00	\$ 2,500.00
AB-2	5-foot bottom ditch with 4:1 side slopes	LF	763	\$ 275.23	\$ 210,000.49
AB-3	Erosion Control Blanket	SYS	7812	\$ 2.50	\$ 19,530.00
AB-4	Seeding	ACRE	2.25	\$ 3,000.00	\$ 6,750.00
AB-5	48" Manhole with casting	EA	4	\$ 4,500.00	\$ 18,000.00
AB-6	60" Manhole with casting	EA	4	\$ 6,750.00	\$ 27,000.00
AB-7	72" Manhole with casting	EA	4	\$ 7,500.00	\$ 30,000.00
AB-8	84" Manhole with casting	EA	2	\$ 10,000.00	\$ 20,000.00
AB-9	96" Manhole with casting	EA	2	\$ 13,000.00	\$ 26,000.00
AB-10	108" Manhole with casting	EA	1	\$ 16,000.00	\$ 16,000.00
AB-11	Outlet Control Structure with screen	EA	1	\$ 6,500.00	\$ 6,500.00
AB-12	Pavement Repair	LS	1	\$ 6,500.00	\$ 6,500.00
AB-13	12" RCP Pipe [6-10' deep]	LF	84	\$ 85.00	\$ 7,140.00
AB-14	15" RCP Pipe [6-10' deep]	LF	28	\$ 95.00	\$ 2,660.00
AB-15	30" RCP Pipe [11-15' deep] with Granular Backfill	LF	60	\$ 250.00	\$ 15,000.00
AB-16	30" RCP Pipe [6-10' deep]	LF	152	\$ 125.00	\$ 19,000.00
AB-17	36" RCP Pipe [6-10' deep]	LF	462	\$ 155.00	\$ 71,610.00
AB-18	42" RCP Pipe [11-15' deep]	LF	600	\$ 190.00	\$ 114,000.00
AB-19	42" RCP Pipe [6-10' deep]	LF	531	\$ 165.00	\$ 87,615.00
AB-20	48" RCP End Sections	EA	2	\$ 6,000.00	\$ 12,000.00
AB-21	48" RCP Pipe [11-15' deep]	LF	278	\$ 200.00	\$ 55,600.00
AB-22	48" RCP Pipe [6-10' deep]	LF	282	\$ 175.00	\$ 49,350.00
AB-23	Maintenance of Traffic	LS	1	\$ 5,000.00	\$ 5,000.00
				<b>Subtotal</b>	<b>\$ 827,755.49</b>
				<b>15% Contingency</b>	<b>\$ 124,163.32</b>
				<b>Total</b>	<b>\$ 951,918.81</b>

### Permits

The Surveyor has applied for permits from the Army Corps of Engineers and Indiana Department of Environmental Management for this project.

Application for permits for construction equipment access from the roadways, if needed, will be made prior to the start of construction.

**Easements**

The project will take place within existing regulated drain easements for the Ellis Barker Drain.

Additional permanent regulated drain easement will be required from the following parcels. Such easements will be contiguous with the existing statutory easement over the Ellis Barker Drain. All acreages are approximate.

Parcel No.:	Owner	Size (acres)	Type of Grant
08-06-29-00-00-002.001	Johnson, Brian & Melissa S; Co-Trustees of Melissa Johnson Rev. Trust	0.592	Grant of Easement. Accepted by the Board at the May 13, 2019 meeting of the Drainage Board.
08-06-29-00-07-075.00	M/I Homes of Indiana, LP	0.248	By Plat

There are known property boundary discrepancies between the Goins and Johnson properties that are in the process of being resolved. Once resolved, a certain amount of easement will be granted on the Johnson property and a certain amount of easement will be dedicated by Plat from the Goins property.

The statutory easement associated with the existing regulated drain across the following parcels will be modified as follows:

Parcel No.:	Owner	Change
08-06-29-00-00-002.001	Johnson, Brian & Melissa S; Co-Trustees of Melissa Johnson Rev. Trust	Reduced to 40-feet on each side measured from the top of bank of the proposed open ditch.
08-06-29-00-07-075.00	M/I Homes of Indiana, LP	Reduced to 30-feet on each side measured from the top of bank of the proposed open ditch.
08-06-29-00-00-001.001	Goins, Thomas E.	Vacated

08-06-29-00-00-001.201	Lindley Run Development LLC	Vacated
08-06-29-00-00-001.301	Lindley Run Development LLC	Reduced to 25-feet on each side measured from the center of the existing tile.
08-06-29-00-00-003.001	Goins, Thomas E.	Reduced to 25-feet on the south side measured from the top of bank of the proposed open ditch.
08-06-29-00-07-073.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-060.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-074.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-061.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-062.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-063.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-064.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-065.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-066.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-0067.000	M I Homes of Indiana LP	Vacated
08-06-29-00-07-068.000	M I Homes of Indiana LP	Vacated

A new statutory easement is hereby established across the following parcels. At such time as the secondary plats for sections of the Lindley Run Development are recorded, proper approvals shall be obtained from the Drainage Board to reduce the width of these easements through the Lindley Run development.

Parcel No.:	Owner	Change
08-06-29-00-00-001.001	Goins, Thomas E.	150-feet in width centered on the proposed tile.
08-06-29-00-00-001.301	Lindley Run Development LLC	150-feet in width centered on the proposed tile.
08-06-29-00-00-001.201	Lindley Run Development LLC	150-feet in width centered on the proposed tile.

#### Filter Strips

20-foot filter strips are hereby established across the following parcels:

Parcel No.:	Owner	Side of Open Ditch
08-06-29-00-00-002.001	Johnson, Brian & Melissa S; Co-Trustees of Melissa Johnson Rev. Trust	North Side
08-06-29-00-07-075.00	M/I Homes of Indiana, LP	North Side

#### Changes to the Ellis Barker Drain

The following, a total of 4,296-LF-lf, will be removed from the Ellis Barker drain.

1. The existing tile between Station 11+86 and Station 25+05 of the main Drain. This tile will be abandoned in place and replaced with new tile along a different alignment.
2. The existing tile between Station 25+05 and Station 48+76 will be removed and replaced with new open ditch
3. The entirety of the existing Arm 2 tile between Station 0+00 and Station 6+06. This tile will be abandoned in place.

The following, a total of 5,645-lf, will be added to the Ellis Barker drain.

1. 462-LF of 36" RCP tile.

2. 1,131-LF of 42" RCP tile.
3. 560-LF of 48" RCP tile.
4. 763-LF of temporary open ditch.
5. 2,405-LF of new open ditch.
6. 24-LF of 30" RCP starting at Station 16+48 as a lateral to drain an adjacent swale and serve as an outlet for the watershed on the west side of Grassy Branch Road that currently drains through a roadway culvert.
7. 28-LF of 12" RCP starting at Station 19+03 as a lateral to drain an adjacent swale.
8. 28-LF of 12" RCP starting at Station 21+79 as a lateral to drain an adjacent swale.
9. 28-LF of 15" RCP starting at Station 24+79 as a lateral to drain an adjacent swale.
10. 28-LF of 12" RCP starting at Station 27+79 as a lateral to drain an adjacent swale.
11. 188-LF of 30" RCP as the Northpoint Arm of the Drain.

The following will be dredged without any change in length.

1. 2,043-feet of existing channel from Station 48+76 to Station 69+40.

The new section of the Drain starts at Station 11+86 where it intercepts the existing 10-inch tile of the main Ellis Barker Drain. The drain then runs as 462-LF of 36-inch RCP tile; then 1,131-LF of 42-inch RCP tile; then 278-LF of 48-inch RCP tile; then as 763-LF of temporary open ditch; then as 282-LF of 48-inch RCP tile; then continues downstream as 2,405-LF of new open ditch; then continues downstream as 2,043-LF of dredged existing open ditch to Station 85+53 where it will discharge at Station 69+40 of the existing open ditch; 35-feet upstream of the end of the McKnight Extension/Start of the Marathon Pipeline Extension at Station 69+75.

The two private tile outlets, the outlet of the abandoned Ellis Barker tile, the three surface water swales, and any needed surface water pipes are considered ancillary to the project and are not considered a part of the Ellis Barker Regulated Drain.

This reconstruction will remove 4,296-LF and add 5,645-LF resulting in a net increase of 1,349-feet to the Drain.

#### **Northpoint Arm to the Ellis Barker Drain**

As part of the reconstruction project, a new arm of the Ellis Barker Drain shall be established. The arm begins at Station 19+03 of the Ellis Barker Drain and continues upstream as 188-LF of 30" RCP tile between Station 0+00 and Station 1+88. The total length of the new arm will be 188-feet and shall be known as the Northpoint Arm to the Ellis Barker Drain.

#### ***Project Funding***

Topographic survey was provided by Weihe Engineers. The value of this work was \$8,650.00 Engineering Design was performed by the Hamilton County Surveyor's Office. Construction staking, construction inspection and as-built drawings will be performed by the Hamilton County Surveyor's Office.

Stoepfelwerth & Associates is under contract with Lindley Run Development, LLC to provide professional services associated with the proposed tile portion of the reconstruction. This contract includes design, construction staking, and as-built drawing production. The value of this contract is \$7,500.00

The project will be let by the Hamilton County Drainage Board and the construction contract will be managed by the Hamilton County Surveyor's Office.

The total value of the project is estimated to be as follows:

Construction	\$1,349,266.24
Clearing	\$100,000
Weihe Survey	\$8,650.00
Stoepfelwerth & Associates	\$7,500.00
<b>Total Project Cost</b>	<b>\$1,465,416.24</b>

Certain acreage within the watershed is proposed to be developed in the short term. The developments include the Lindley Run subdivision and Northpoint III. The developers of this acreage are, respectively:

(1) Lindley Run Development, LLC

(2) Northpoint Owners, LLC and Pinnacle Development, LLC; both in care of Chris White at Site Solutions Group, LLC, respectively.

Certain acreage within the watershed is presently under development. The Scofield Farms Subdivision is being developed by M/I Homes of Indiana, LP.

As previously stated, the stormwater runoff from certain acreage within the watershed was accommodated in the design of this project. The design assumed that stormwater detention facilities to the current standards of Hamilton County will be constructed as the acreage is developed. As such, this acreage will have an existing stormwater outlet at the time the acreage is developed. This acreage is included in portions of the following parcels:

Parcel Number	Owner	Total Acreage	Acreage within watershed
08-06-30-00-00-007.00	Chance, Carolyn A & David Maurice Trustees Ronald E Chance Family Trust Exempt Share 1/2 int & Carolyn A &	70.00	40.00

	Ronald E Chance Trustees of Carolyn A Chance Lvg Trust 1/2 int		
08-06-30- 00-00- 009.00	Roberts, Leanna K	79.74	59.74
08-06-20- 00-00- 023.00	Roberts, Joseph G	77.90	18.96

Under previous discussion and agreements between M/I Homes of Indiana, LP and the Hamilton County Surveyor's Office during the approval process of the Scofield Farms subdivision, M/I Homes of Indiana, LP is responsible for the following work across the Scofield Farms development (refer to email between Weihe Engineers and Hamilton County Surveyors's office dated February 28, 2017 and Hamilton County Surveyor's Office Plan Review Letter for Scofield Farms Section 1 dated March 28, 2017 ):

1. The regulated drain west of the existing power line easement will be cleared of vegetation within an area 20-feet on either the north or south side of the existing open ditch and the open ditch regraded.
2. East of the electric line easement, the existing regulated drain will be cleared of log-jams, dams, and fallen limbs between the tops of bank.
3. Converting the existing regulated drain tile to an open ditch.
4. While not specifically outlined in the referenced email and referenced plan review letter, the following work is ancillary to the agreed scope of work and has been included in the cost:
  - a. Demolish the existing regulated drain tile
  - b. Installation of 20-foot filter strip
  - c. Rip-rap revetment for surface drainage ways
  - d. Construction of 5-foot bottom surface water swale with 4:1 side slopes
  - e. Seeding of disturbed areas
  - f. Surface water pipes
  - g. Clearing of small diameter trees and woody vegetation that was not cleared as part of the clearing performed under separate contract
  - h. A portion of the topographic survey work completed by Weihe Engineers under contract with Hamilton County Drainage Board needed for the design for dredging the existing open ditch and for converting the existing regulated drain tile to an open ditch.

The value of this work is estimated to be \$157,513.48 based on the following:

1. Clearing under previous contract: 1.06-acres of total 3.23-acres equal to \$32,840.00
2. Surveying: 3,623.83-feet of total 7,348-feet equal to \$4,266.18

3. Construction: \$120,407.30

Based on this estimate, the rate per acre would be \$2,163.05.

The remainder of the total project cost, \$1,307,902.76, shall be assessed equally by acreage over the remainder of the properties that benefit from the reconstruction project. The total acreage to be assessed is 304.90-acres. Based on this estimate, the rate per acre would be \$4,289.61. The following outlines the acreage by owner and the respective assessment:

Owner/Developer	Acreage	Total Cost
Lindley Run Development, LLC [portions of which are owned by Thomas Goins]	106.43	\$456,543.43
Northpoint Owners, LLC and Pinnacle Development, LLC [portions of which are owned by Carey Corp. and portions of which are owned by Leanna K Roberts]	79.77	\$342,182.36
Chance, Carolyn and David	40.00	\$171,584.49
Roberts, Leanna	59.74	\$256,261.43
Roberts, Joseph	18.96	\$81,331.05

The final costs to be assessed shall be based on the actual construction contract amounts and any approved change orders.

As discussed at the April 8, 2019 meeting of the Drainage Board, Lindley Run Development, LLC, Northpoint Owners, LLC and Pinnacle Development, LLC (both in care of Chris White at Site Solutions Group, LLC), and M/I Homes of Indiana, LP (collectively, "Developers") shall provide a financial guarantee surety that is acceptable to the Hamilton County Drainage Board. The Surety shall be payable to the Hamilton County Drainage Board in the amount of 100% of the amounts listed previously as surety of the financial obligation to repay Hamilton County for any monies expended by the County on behalf of the Developers in association with this reconstruction in the event of non-payment by the Developers.

As discussed at the May 13, 2019 meeting of the Drainage Board, payment by the Developers shall be over a five (5) year period starting in 2020.

As discussed at the May 13, 2019 meeting of the Drainage Board, payment by the following property owners, or their successors in title, for work completed as a part of this reconstruction project shall be deferred until such time as the properties are developed or are designated as right-of-way. In the event that such development occurs within a period of twenty (20) years from the completion date of the reconstruction project, this deferred assessment shall be billed to these property owners, or their

successors in title, with the entire payment due when the first section of any development of the respective property is recorded.

Parcel Number	Owner
08-06-30-00-00-007.00	Chance, Carolyn A & David Maurice Trustees Ronald E Chance Family Trust Exempt Share 1/2 int & Carolyn A & Ronald E Chance Trustees of Carolyn A Chance Lvg Trust 1/2 int
08-06-30-00-00-009.00	Roberts, Leanna K
08-06-20-00-00-023.00	Roberts, Joseph G

I believe that no damages will result to landowners by the reconstruction of this drain. Therefore, damages shall be set at \$0.00.

I recommend that a hearing be held for this matter on June 24, 2019.

Sincerely,



Kenton C. Ward, CFM  
Hamilton County Surveyor

KCW/pll



**Ellis Barker Reconstruction (Sly Run Drainage Shed)**

For the benefit of Lindley Run, Northpoint Phs 3 & Scofield Farms (M I Homes).  
 There will be 4296' of drain replaced & 5645' new drain for an overall increase of 1,349'.  
 2371'-Replace with open ditch between Sta 25+05 to 47+76  
 1319'-Abandon & demolish as develops from Sta 11+86 to 25+05  
 606'-Abandon & demolish as develops Arm 2 from Sta 0 to 6+06  
 Filter Strips will be established on the Johnson & M I Homes parcels.  
 No change in current maintenance assessment rates. Damages set at zero.

Final cost shall be based on actual construction contract amounts & approved change orders.

\*Reconstruction: Assessment to be **certified for collections** for the Lindley Run, Northpoint, Scofield Farms & ROW splits from designated parcels.

\*Deferred: Upon development from parcel 08-06-20-00-00-023.000 & 08-06-30-00-00-009.000 & 08-06-30-00-00-007.000 the owner of the property will be billed a Deferred Assessment and the entire payment to be made when the first section of any development is recorded.

Hearing : 06/24/19

Scofield Farms is \$2,163.05245 per acre.  
 Main Reconstruction is \$4,289.6122 per acre

Certify for collections: \$956,239.27  
 Defer until developed: \$509,176.97  
 Total: \$1,465,416.24

Scofield Farms property	
Scofield Farms construction cost:	\$120,407.30
Clearing 1.06 Ac:	\$32,840.00
Survey 3,623.83':	\$4,266.18
<b>Scofield Farms Total:</b>	<b>\$157,513.48</b>
Main Reconstruction	
Base bid construction cost:	\$276,940.13
Alternate bid construction cost:	\$951,918.81
Engineering:	\$7,500.00
Clearing 2.17 Ac:	\$67,160.00
Survey 3,724.17':	\$4,383.82
<b>Main Reconstruction Total:</b>	<b>\$1,307,902.76</b>
<b>Grand Total:</b>	<b>\$1,465,416.24</b>

Parcel	Owner	Desc1	Note	Benefit	Reconstruction	Deferred	Percentage
08-06-29-00-07-075.000	* M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Blk 1, 72.82 Ac	A 20' filter strip established.-See report for esmnt info.	72.82	\$157,513.48	\$0.00	100.00%
08-06-29-00-07-060.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 194					
08-06-29-00-07-061.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 195					
08-06-29-00-07-062.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 196					
08-06-29-00-07-063.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 197					
08-06-29-00-07-064.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 198					
08-06-29-00-07-065.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 199					
08-06-29-00-07-066.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 200					
08-06-29-00-07-067.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 201					
08-06-29-00-07-068.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 Lot 202					
08-06-29-00-07-073.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 CA E, 0.27 Ac					
08-06-29-00-07-074.000	M I Homes of Indiana LP	S29 T19 R4 Scofield Farms Sec 1 CA F, 0.21 Ac					
Scofield Farms Total:				72.82	\$157,513.48	\$0.00	100.00%

Parcel	Owner	Desc1	Note	Benefit	Reconstruction	Deferred	Percentage
08-06-29-00-00-001.001	Goins, Thomas E	S29 T19 R4 39.18 Ac	See Surveyor's Report to the Board regarding easements.	39.18	\$168,067.01		12.85%
08-06-29-00-00-001.201	Lindley Run Dev. LLC (Olthof Homes)	S29 T19 R4 31.63 Ac	See Surveyor's Report to the Board regarding easements.	31.63	\$135,680.43		10.37%
08-06-29-00-00-001.301	Lindley Run Development LLC	S29 T19 R4 4.34 Ac (Future ROW)	See Surveyor's Report to the Board regarding easements.	4.34	\$18,616.92		1.42%
08-06-29-00-00-003.000	Goins, Thomas E	S29 T19 R4 8.08 Ac		8.08	\$34,660.07		2.65%
08-06-29-00-00-003.001	Goins, Thomas E	S29 T19 R4 23.20 Ac	See Surveyor's Report to the Board regarding easements.	23.20	\$99,519.00		7.61%
Lindley Run Total:				106.43	\$456,543.43		34.91%
08-06-19-00-00-006.000	Carey Corporation	S19 T19 R4 14.70 Ac	DPJ-2018-00185 says Northpoint Developer	14.70	\$63,057.30		4.82%
08-06-19-00-00-007.000	Carey Corporation	S19 T19 R4 12.63 Ac	DPJ-2018-00185 says Northpoint Developer	12.63	\$54,177.80		4.14%
08-06-19-00-00-008.000	Carey Corporation	S19 T19 R4 12.44 Ac	DPJ-2018-00185 says Northpoint Developer	12.44	\$53,362.77		4.08%
08-06-19-00-00-009.000	Carey Corporation	S19 T19 R4 40.00 Ac	DPJ-2018-00185 says Northpoint Developer	40.00	\$171,584.49		13.12%
<b>DPJ-2018-00185</b>	<b>Northpoint Developer</b>	Developer of parcel 08-06-19-00-00-006 thru 009		<b>Northpoint Phs 3 Total:</b> 79.77	<b>\$342,182.36</b>		<b>26.16%</b>
08-06-20-00-00-023.000	Roberts, Joseph G	S20 T19 R4 77.90 Ac		18.96		\$81,331.05	6.22%
08-06-30-00-00-009.000	Roberts, Leanna K	S30 T19 R4 79.74 Ac		59.74		\$256,261.43	19.59%
08-06-30-00-00-007.000	Chance, Carolyn A. & David M. Trustees	S30 T19 R4 70.00 Ac		40.00		\$171,584.49	13.12%
Deferred Total:				118.70		\$509,176.97	38.93%
08-06-29-00-00-002.001	Johnson, Brian J & Melissa S CoTrustees	S29 T19 R4 34.50 Ac	A 20' filter strip established.-See report for esmnt info.	n/a	No asmt.	No asmt.	0.00%
99-99-99-99-999.001	Hamilton Co. Highway Dept.	S29 T19 R4 Grassy Branch Rd		n/a	No asmt.	No asmt.	0.00%
99-99-99-99-999.010	City of Westfield	S29 T19 R4 196th St		n/a	No asmt.	No asmt.	0.00%
Main Reconstruction Total:				304.90	\$798,725.79	\$509,176.97	100.00%

Total Scofield Farms & Main Reconstruction: 377.72      \$956,239.27      \$509,176.97  
 \$1,465,416.24

