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 CHAMPAIGN COUNTY
 PLANNING & ZONING

EXISTING AGRICULTURAL DRAIN TILE INVESTIGATION PLAN

Champaign 1 and 2 Solar

Prepared for: **HBK Engineering, LLC**

Section no. 34, Pesotum Twp., Champaign Co., IL.

EXISTING SUBSURFACE AGRICULTURAL DRAIN TILE INVESTIGATION REPORT

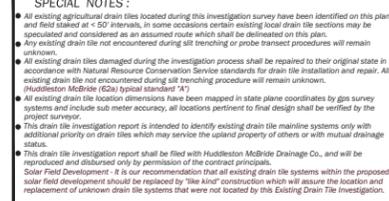
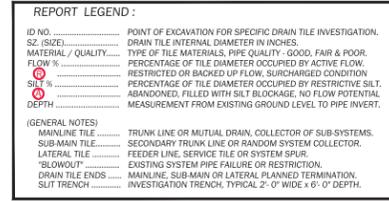
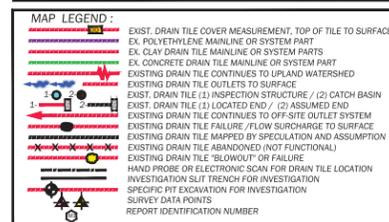
Champaign 1 and 2 Solar

HBK Engineering, LLC

Champaign 1 and 2 Solar / HBK Engineering, LLC, FIELD FILE NO. 18c-00-00_X1, DATE: 7/31/23
 IN ACCORDANCE WITH ILLINOIS COUNTY AND ILL. A.S.A. EXISTING DRAIN TILE INVESTIGATION & LOCATION STANDARDS
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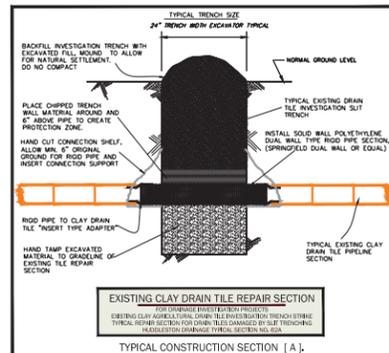
DESCRIPTION CHART NO. 1A:

ID NO.	SZ.	TYPE / QUALITY	FLOW %	SILT %	DEPTH	FIELD NOTES
A1	10"	CLAY / POOR	NO	50%	33"	POOR PIPE QUALITY, FAILING SYSTEM
A2	12"	PLASTIC / GOOD	10%	CLEAN	33"	ACTIVE FLOW RATE AND CAPACITY
A3	8"	CLAY / POOR	NO	100%	23"	SILT RESTRICTED / NO CAPACITY
A4	12"	PLASTIC / GOOD	10%	CLEAN	33"	ACTIVE FLOW RATE AND CAPACITY
A5	10"	CLAY / GOOD	20%	25%	33"	ACTIVE FLOW RATE AND CAPACITY
B1	8"	PLASTIC / GOOD	10%	CLEAN	33"	ACTIVE FLOW RATE AND CAPACITY
B2	10"	CLAY / GOOD	NO	25%	33"	ACTIVE FLOW RATE AND CAPACITY
B3	8"	PLASTIC / GOOD	TRACE	CLEAN	33"	ACTIVE FLOW RATE AND CAPACITY
B4	10"	PLASTIC / GOOD	10%	CLEAN	33"	ACTIVE FLOW RATE AND CAPACITY
B5	8"	PLASTIC / GOOD	5%	CLEAN	33"	ACTIVE FLOW RATE AND CAPACITY
B6	8"	CLAY / GOOD	NO	25%	33"	ACTIVE FLOW RATE AND CAPACITY
B7	10"	CLAY / POOR	15%	CLEAN	33"	NO DRAIN TILE LOCATED
B8	8"	N 1/2" / GOOD	NO	CLEAN	33"	ACTIVE FLOW RATE AND CAPACITY
C1	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C2	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C3	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C4	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C5	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C6	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C7	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C8	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C9	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED
C10	10"	CLAY / GOOD	NO	25%	33"	NO DRAIN TILE LOCATED



DESCRIPTION CHART NO. 1B:

DATA POINT	SZ.	TYPE / QUALITY	FLOW %	SILT %	DEPTH	FIELD NOTES
1	8"	CLAY / GOOD	NO	20%	23"	LATERAL AT PROPERTY EGRESS
2	8"	CLAY / GOOD	10%	10%	23"	MAINLINE AT PROPERTY EGRESS
3	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
4	8"	CLAY / GOOD	10%	10%	23"	MAINLINE AT PROPERTY EGRESS
5	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
6	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
7	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
8	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
9	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
10	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
11	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
12	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
13	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
14	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS
15	8"	CLAY / GOOD	NO	10%	23"	LATERAL AT PROPERTY EGRESS



CROP DAMAGE ESTIMATE REPORT

REGARDING EXISTING DRAIN TILE SURVEY DAMAGE

ALL EXISTING INVESTIGATION TRENCHES ARE ESTIMATED AT A WIDTH OF 30 IN. WHICH INCLUDES TRENCH EXCAVATION AND BACKFILLING. ALL FIELD TRAVEL PATHWAYS FROM PUBLIC ACCESS OR NON-CROP AREA TO EACH INVESTIGATION TRENCH ARE ESTIMATED AT A WIDTH OF 8 FT. WHICH INCLUDES ONE WAY TRAFFIC.

HBK CHAMPAIGN, FILE NO. 18c-00-00X1
 CALCULATION ESTIMATE FOR CROP DAMAGE

INVESTIGATION TRENCHES, TOTAL 1878 IN FT. x 30 WIDTH FT. EQUALS 56,340 SQ FT. OR 1.29 ACRES

INVESTIGATION PATHWAYS, TOTAL 6687 IN FT. x 8 WIDTH FT. EQUALS 53,496 SQ FT. OR 1.22 ACRES

FIELD TRAVEL PATHWAYS IN CROPLAND LOCATED IN AREAS WHERE NO DAMAGE WAS INCURRED

TOTAL CROP DAMAGE AREA ESTIMATE 2.51 ACRES.

PROJECT CLIENT: HBK Engineering, LLC. Thomas Bock, P.E., Project Manager 2101 W Carroll Ave., Chicago, IL., 60612	APPROVED BY AND DATE: TOM HUDDLESTON 7/31/23	PROJECT DATE: 7/31/23	DATE: BY: DESCRIPTION:					Champaign 1 and 2 Solar HUDDLESTON McBRIDE PROFESSIONAL LAND DRAINAGE SERVICES 9504 FOWLER RD., ROCHELLE, ILLINOIS PHONE 815-562-6007
ACKNOWLEDGMENTS: HUDDLESTON DRAINAGE MAP and ARCHIVE SYSTEMS	DRAWN BY AND DATE: TOM HUDDLESTON 7/31/23	FIELD FILE NO.: 18c-00-00_X1	WEATHER CONDITIONS: SUNNY / WARM - 75o	DRAWING SCALE: 1" = 200'	SHEET NO. ONE OF ONE	COORDINATE SYSTEM: ILLINOIS STATE PLANE EAST NAD 83		



EXISTING SUBSURFACE AGRICULTURAL DRAIN TILE INVESTIGATION REPORT

Champaign 1 and 2 Solar

HBK Engineering, LLC

Champaign 1 and 2 Solar / HBK Engineering, LLC , FIELD FILE NO. 18c-00-00_X1 , DATE: 7/31/23 .
 IN ACCORDANCE W/ LOCAL COUNTY and A.I.M.A EXISTING DRAIN TILE INVESTIGATION & LOCATION STANDARDS
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DESCRIPTION CHART NO. 1A : INVESTIGATION SLIT TRENCH LOCATIONS

ID NO.	SZ.	TYPE / QUALITY	FLOW %	SILT %	DEPTH GRD/INV	FIELD NOTES:
A1	10"	CLAY / POOR	NO	50%	53"	POOR PIPE QUALITY, FAILING SYSTEM
A2	12"	PLASTIC/GOOD	10%	CLEAN	61"	ACTIVE FLOW RATE AND CAPACITY
A3	8"	CLAY / POOR	NO	100%	49"	SILT RESTRICTED / NO CAPACITY
A4	12"	PLASTIC/GOOD	10%	CLEAN	61"	ACTIVE FLOW RATE AND CAPACITY
A5	9"	CLAY / GOOD	20%	10%	50"	ACTIVE FLOW RATE AND CAPACITY
B1	5"	PLASTIC/GOOD	10%	CLEAN	62"	ACTIVE FLOW RATE AND CAPACITY
C1	6"	CLAY / GOOD	NO	20%	44"	ACTIVE FLOW RATE AND CAPACITY
C2	6"	PLASTIC/GOOD	TRACE	CLEAN	63"	ACTIVE FLOW RATE AND CAPACITY
C3	12"	PLASTIC/GOOD	5%	CLEAN	67"	ACTIVE FLOW RATE AND CAPACITY
D1	5"	PLASTIC/GOOD	5%	CLEAN	62"	ACTIVE FLOW RATE AND CAPACITY
E1	4"	CLAY / GOOD	NO	10%	31"	ACTIVE FLOW RATE AND CAPACITY
F	---	---	---	---	---	NO DRAIN TILE LOCATED
G1	10"	CLAY / POOR	15%	CLEAN	53"	ACTIVE FLOW RATE AND CAPACITY
H1	6"	N-12 / GOOD	NO	CLEAN	47"	ACTIVE FLOW RATE AND CAPACITY
I	---	---	---	---	---	NO DRAIN TILE LOCATED
J	---	---	---	---	---	NO DRAIN TILE LOCATED
K	---	---	---	---	---	NO DRAIN TILE LOCATED
L	---	---	---	---	---	NO DRAIN TILE LOCATED
M1	8"	CLAY / GOOD	10%	10%	48"	ACTIVE FLOW RATE AND CAPACITY
N1	4"	CLAY / GOOD	NO	15%	47"	ACTIVE FLOW RATE AND CAPACITY
O1	4"	CLAY / GOOD	NO	TRACE	33"	ACTIVE FLOW RATE AND CAPACITY



SITE LOCATION
 Section no. 34, Pesotum Twp., Champaign Co., IL.

MAP LEGEND :

- EXIST. DRAIN TILE COVER MEASUREMENT, TOP OF TILE TO SURFACE
- EX. POLYETHYLENE MAINLINE OR SYSTEM PART
- EX. CLAY DRAIN TILE MAINLINE OR SYSTEM PARTS
- EX. CONCRETE DRAIN TILE MAINLINE OR SYSTEM PART
- EXISTING DRAIN TILE CONTINUES TO UPLAND WATERSHED
- EXISTING DRAIN TILE OUTLETS TO SURFACE
- EXIST. DRAIN TILE (1) INSPECTION STRUCTURE / (2) CATCH BASIN
- EXIST. DRAIN TILE (1) LOCATED END / (2) ASSUMED END
- EXISTING DRAIN TILE CONTINUES TO OFF-SITE OUTLET SYSTEM
- EXISTING DRAIN TILE FAILURE /FLOW SURCHARGE TO SURFACE
- EXISTING DRAIN TILE MAPPED BY SPECULATION AND ASSUMPTION
- EXISTING DRAIN TILE ABANDONED (NOT FUNCTIONAL)
- EXISTING DRAIN TILE "BLOWOUT" OR FAILURE
- HAND PROBE OR ELECTRONIC SCAN FOR DRAIN TILE LOCATION
- INVESTIGATION SLIT TRENCH FOR INVESTIGATION
- SPECIFIC PIT EXCAVATION FOR INVESTIGATION
- SURVEY DATA POINTS
- REPORT IDENTIFICATION NUMBER

REPORT LEGEND :

- ID NO. POINT OF EXCAVATION FOR SPECIFIC DRAIN TILE INVESTIGATION.
- SZ. (SIZE)..... DRAIN TILE INTERNAL DIAMETER IN INCHES.
- MATERIAL / QUALITY..... TYPE OF TILE MATERIALS, PIPE QUALITY - GOOD, FAIR & POOR.
- FLOW % PERCENTAGE OF TILE DIAMETER OCCUPIED BY ACTIVE FLOW.
- RESTRICTED OR BACKED UP FLOW, SURCHARGED CONDITION
- SILT % PERCENTAGE OF TILE DIAMETER OCCUPIED BY RESTRICTIVE SILT.
- ABANDONED, FILLED WITH SILT BLOCKAGE, NO FLOW POTENTIAL
- DEPTH MEASUREMENT FROM EXISTING GROUND LEVEL TO PIPE INVERT.

(GENERAL NOTES)

- MAINLINE TILE TRUNK LINE OR MUTUAL DRAIN, COLLECTOR OF SUB-SYSTEMS.
- SUB-MAIN TILE..... SECONDARY TRUNK LINE OR RANDOM SYSTEM COLLECTOR.
- LATERAL TILE FEEDER LINE, SERVICE TILE OR SYSTEM SPUR.
- "BLOWOUT" EXISTING SYSTEM PIPE FAILURE OR RESTRICTION.
- DRAIN TILE ENDS MAINLINE, SUB-MAIN OR LATERAL PLANNED TERMINATION.
- SLIT TRENCH INVESTIGATION TRENCH, TYPICAL 2'- 0" WIDE x 6'- 0" DEPTH.

SPECIAL NOTES :

- All existing agricultural drain tiles located during this investigation survey have been identified on this plan and field staked at < 50' intervals, in some occasions certain existing local drain tile sections may be speculated and considered as an assumed route which shall be delineated on this plan.
 - Any existing drain tile not encountered during slit trenching or probe transect procedures will remain unknown.
 - All existing drain tiles damaged during the investigation process shall be repaired to their original state in accordance with Natural Resource Conservation Service standards for drain tile installation and repair. All existing drain tile not encountered during slit trenching procedure will remain unknown.
 - (Huddleston McBride (62a) typical standard "A")
 - All existing drain tile location dimensions have been mapped in state plane coordinates by gps survey systems and include sub meter accuracy, all locations pertinent to final design shall be verified by the project surveyor.
 - This drain tile investigation report is intended to identify existing drain tile mainline systems only with additional priority on drain tiles which may service the upland property of others or with mutual drainage status.
 - This drain tile investigation report shall be filed with Huddleston McBride Drainage Co., and will be reproduced and disbursed only by permission of the contract principals.
- Solar Field Development - It is our recommendation that all existing drain tile systems within the proposed solar field development should be replaced by "like kind" construction which will assure the location and replacement of unknown drain tile systems that were not located by this Existing Drain Tile Investigation.

DESCRIPTION CHART NO. 1B :

SURVEY DATA POINT LOCATIONS

DATA POINT	SZ.	TYPE / QUALITY	FLOW %	SILT %	DEPTH HUB/INV	FIELD NOTES:
1	6"	CLAY / GOOD	NO	20%	41"	LATERAL AT PROPERTY INGRESS
2	12"	PLASTIC/GOOD	10%	CLEAN	66"	MAINLINE AT PROPERTY INGRESS
3	8"	CLAY / GOOD	NO	50%	59"	MAINLINE AT PROPERTY INGRESS
4	8"	CLAY / GOOD	10%	10%	46"	MAINLINE AT PROPERTY INGRESS
5	4"	CLAY / GOOD	NO	15%	47"	LATERAL AT PROPERTY INGRESS
6	4"	CLAY / GOOD	NO	15%	29"	LATERAL AT PROPERTY EGRESS
7	10"	CLAY / POOR	15%	CLEAN	51"	MAINLINE AT PROPERTY EGRESS
8	9"	CLAY / GOOD	20%	CLEAN	50"	MAINLINE AT PROPERTY EGRESS
9	12"	PLASTIC/GOOD	10%	CLEAN	63"	MAINLINE AT PROPERTY EGRESS
10	8"	CLAY / POOR	NO	100%	51"	MAINLINE AT PROPERTY EGRESS
11	10"	CLAY / POOR	NO	50%	59"	MAINLINE AT PROPERTY EGRESS
12	10"	CLAY / POOR	NO	50%	57"	MAINLINE AT PROPERTY INGRESS
13	12"	PLASTIC/GOOD	10%	CLEAN	64"	MAINLINE AT PROPERTY INGRESS