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FILE DATE: 03/31/10

SECTION: PART 1 OF 3

NUMBER OF PAGES: 197

DESCRIPTION OF DOCUMENT:

APPLICATION

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FILE

Letter of Notification to the Ohio Power Siting Board
Case Number 10 - 420-EL - BLN
420-EL

The City of Hamilton Electric Department
Proposed Substation No. 11 to Substation No. 10 138 kV Transmission Line Project

March 31, 2010

This project involves the extension of 138 kV electric transmission service between the City of Hamilton's Substation No. 11 at 8950 Gilmore Road and Substation No. 10 at 1235 Hooven Avenue. The City of Hamilton is submitting this Letter of Notification to the Ohio Power Siting Board for review and approval to proceed with construction of this project.

Hamilton has retained the services of its trade association and engineering consulting services provider, American Municipal Power (AMP), to research land use, agricultural district land, archaeological and cultural resources, ecological resources and other socioeconomic impacts associated with the development of this project. AMP and its subcontractors performed the field studies, made resource agency contacts and completed other investigations/studies between November 2008 and December 2009. The results of these studies are included in the appropriate sections of this Letter of Notification where requested. In some other cases, field data and reports are attached for your reference.

The format of this Letter of Notification follows the requirements of Rule 4906-11-01 of the Ohio Administrative Code.

Project:
City of Hamilton Substation No. 11 to Substation No. 10 138 kV Electric Transmission Line, Cities of Fairfield and Hamilton, Butler County, Ohio

Prepared by:
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Submitted to:
Jon Pawley, Power Siting Policy Advisor
Ohio Power Siting Board
1800 East Broad Street
Columbus, Ohio 43215-3793

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4906-11-01 Letter of Notification Requirements

(A) A letter of notification filed with the board shall contain the information described in paragraphs (B) to (E) of this rule. If the applicant requests expedited processing of the letter of notification, in addition to filing the letter with the docketing department, the applicant shall also serve a copy of the letter of notification directly with the board's executive director or the executive director's designee at or before the filing of the expedited letter of notification by hand delivery or overnight courier service.

Hamilton is requesting expedited processing of this Letter of Notification. Concurrent with filing a copy of this Letter with the Ohio Power Siting Board Docketing Department, Hamilton will also serve a copy of the letter to the Ohio Power Siting Board Executive Director via hand delivery. In addition to the filings, Hamilton will submit a $2,000.00 check for expedited treatment of the letter of Notification. The check will be submitted to:

Mr. Brett McClaskie
Commission/Chief of Staff – Finance & Services
Public Utilities Commission of Ohio
180 East Broad Street, 4th Floor
Columbus, Ohio 43215-3793

(B)General Information containing the following information:

(1) The name of the project and applicant's reference number, if any, names and reference number(s) of resulting circuits and a brief description of the project, and why the project meets the requirements for a letter of notification.

The name of the project is the Hamilton Substation No. 11 to Substation No. 10 138 kV Transmission Line Project. The project will consist of an approximate 2.2 mile single circuit 138kV transmission line on wood monopole structures, mostly occupying existing rights-of-way (ROW) or land currently held by the CSX Railroad or the City of Hamilton. The line will connect existing Hamilton Substation No. 11 located at 8050 Gilmore Road with existing Hamilton Substation No. 10 located at 1235 Hooven Avenue **(Figure 1)**.

From Substation No. 11 the line will cross to an existing Duke Energy 138 kV transmission line on the west side of Gilmore Road and proceed south approximately 530 feet, then head southwest, paralleling an interstate natural gas pipeline, to a point west of CSX Transportation's Cincinnati-to-Toledo Line. From this point, the proposed line parallels the west side of the CSX Railroad to the former GM Fisher Body Plant. At the

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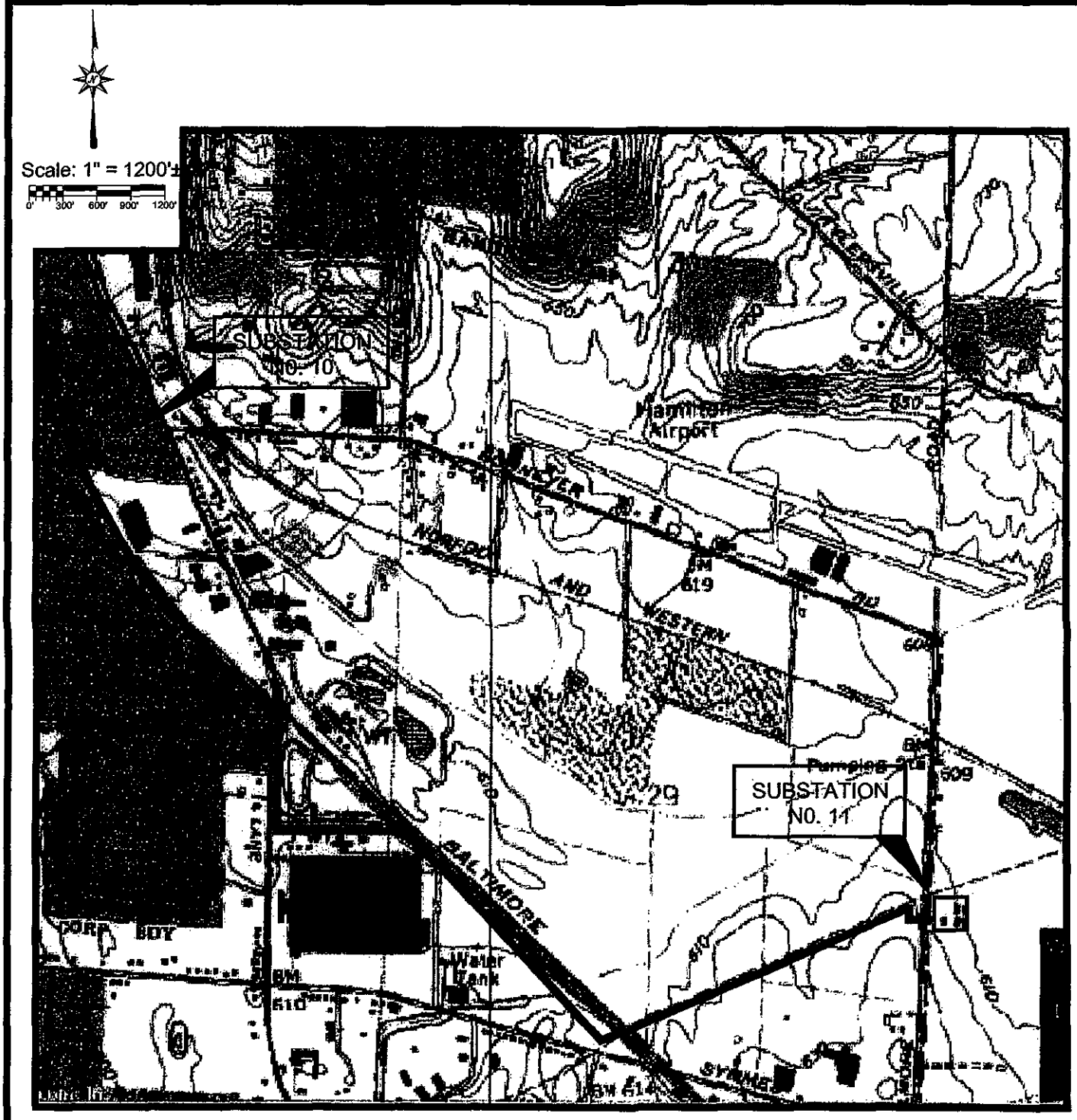

Proposed Route

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DWG.No.	DATE:	JOB No.	CHK. BY:	DRN. BY:	DES. BY:
1 of 1	11-18-09		R.M.	GU	R.M.

Figure 1

Vicinity Map
138kV Long Line
Hamilton, Butler County, Ohio

REV.	DATE	BY	DESCRIPTION
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AMP
PUBLIC POWER PARTNERS

northeast corner of the GM Plant the line turns west and proceeds to the GM substation (dismantled) at the northwest corner of the building. From the GM substation, the proposed line crosses Dixie Highway (State Route 4) and follows an existing Duke Energy 69 kV transmission line along the west side of Dixie Highway and Huston Road until it crosses to a Hamilton 13.8 kV electric distribution pole on the east side of Zimmerman Avenue. The line then follows the 13.8 kV distribution line along the east side of Zimmerman Avenue to a point opposite the Wulzen/Clinton Avenue intersection where it heads east across the CSX Railroad to its point of termination in Substation No. 10.

The proposed transmission line will make use of Duke's existing 75 - 95 foot tall wood monopoles along the west side of Gilmore Road and between Gilmore Road and the GM Plant. Duke's 138 kV transmission line between Gilmore Road and the former GM Fisher Body Plant Substation will be purchased by the City of Hamilton and incorporated into this project "as is." See **Appendix A** for a copy of the sales and service agreement. No new construction or land clearing will occur along this section of the route.

The proposed transmission line will make use of an existing Duke Energy 69 kV transmission line (Duke Energy Feeder 5762) along the west side of Dixie Highway and Huston Road. Poles in this section will be upgraded to accommodate the proposed Hamilton 138 kV transmission line and a Hamilton 13.8 kV distribution line in underbuilt positions. The existing Duke Energy 69 kV transmission line will be in an overbuilt position. Changes to the existing transmission line footprint are not anticipated.

At Zimmerman Avenue the proposed transmission line will cross to the overbuilt position on an existing Hamilton 13.8 kV distribution line paralleling the east side of Zimmerman Avenue to a point opposite of Substation No. 10. No changes to the existing distribution line footprint are anticipated.

The crossing from Zimmerman Avenue to Substation 10 will require a new railroad crossing permit, some land cleaning activities between the east side of the CSX Railroad and Wulzen Avenue, and installation of two transmission poles.

To summarize, the proposed route can be divided into five segments and referenced to the stationing provided on the route maps in **Appendix B**:

1. Substation No. 11 connection to existing Duke Energy 138 kV transmission line along the west side of Gilmore Road (Station 0 + 00) to Station 0 + 70); - **New Construction** -
2. Existing Duke Energy 138 kV transmission line from Gilmore Road to the GM Fisher Body Plant (Station 0 + 70 to Station 76 + 50); - **Transfer of Ownership; No New Construction.** -
3. Existing Duke Energy 69 kV transmission line along the west side of Dixie Highway and Huston Road to Zimmerman Avenue with proposed line underbuilt (Station 76 + 50 to Station 88 + 40);- **Equipment upgrades required. No change to route footprint.** –
4. Existing Hamilton 13.8kV distribution line along the east side of Zimmerman Avenue with proposed line overbuilt (Station 88 + 40 to Station 114 + 60); - **Equipment upgrades required. No change to route footprint.**-
5. Zimmerman Avenue to Hamilton Substation No. 10 (Station 114 + 60 to Station 118 + 15); - **New Construction** -.

Only 425 feet or 3.6 % of the proposed route requires new construction. 7,580 feet will be a transfer of ownership with no land disturbance. 3,810 feet will require equipment upgrades with no changes to the route footprint.

Using the Application Requirement Matrix for Electric Transmission Lines in Appendix A to OAC 4906-1-01, the proposed new transmission line described above meets the definition of 1(e) because it is between 125 and 300 kV and new construction does not exceed two miles in total length. Projects meeting this definition qualify for the Letter of Notification approval process.

(2) If the proposed letter of notification project is an electric power transmission line or gas or natural gas transmission line, a statement explaining the need for the proposed facility.

Hamilton has developed a strategic plan (**Appendix C**) for relieving electric system bottlenecks and meeting the city's electric supply needs into the next decade. In addition to the Substation No. 11 to Substation No. 10 138 kV Transmission line, which is the subject of this application, Hamilton will construct a 138 kV transmission line from Substation 4 to Substation 13 in 2010 and will be proposing a short 138 kV transmission line re-route connecting the Southwest Ohio Industrial (SOID) Substation to Substation No. 10 later this year.

Specifically, the Substation No. 11 to Substation No. 10 transmission line project is being undertaken to relieve Hamilton 138 kV transmission lines 103-111 and 111-151 and the

138/69 kV autotransformers located at Hamilton Substations No. 10 and No. 15, and to provide capacity for proposed hydroelectric generation from the Captain Anthony Meldahl Locks and Dam near Willow Grove, Kentucky.

Hamilton has a 2007 estimated population of 62,285 and serves as the seat of Butler County government. In addition to being a seat of local government, Hamilton is a major economic center in southwestern Ohio. The city's electric department was founded in 1895 and today serves just over 30,000 meters (90% residential). The city owns and operates a 104.5 MW coal-fired power station and a small 1 MW hydroelectric plant within its corporation limits. Hamilton also owns and operates a 76 megawatt (MW) hydroelectric plant at the Greenup Locks and Dam near Greenup, Kentucky and, as mentioned above, is looking to develop additional hydroelectric generation capacity at the Meldahl Locks and Dam. Due to the location of a substantial percentage of city-owned generation assets outside its city limits, Hamilton imports a significant portion of its total energy through its 138 kV interconnection with Duke Energy. Consequently, it is imperative for the city to maintain a robust electric transmission system.

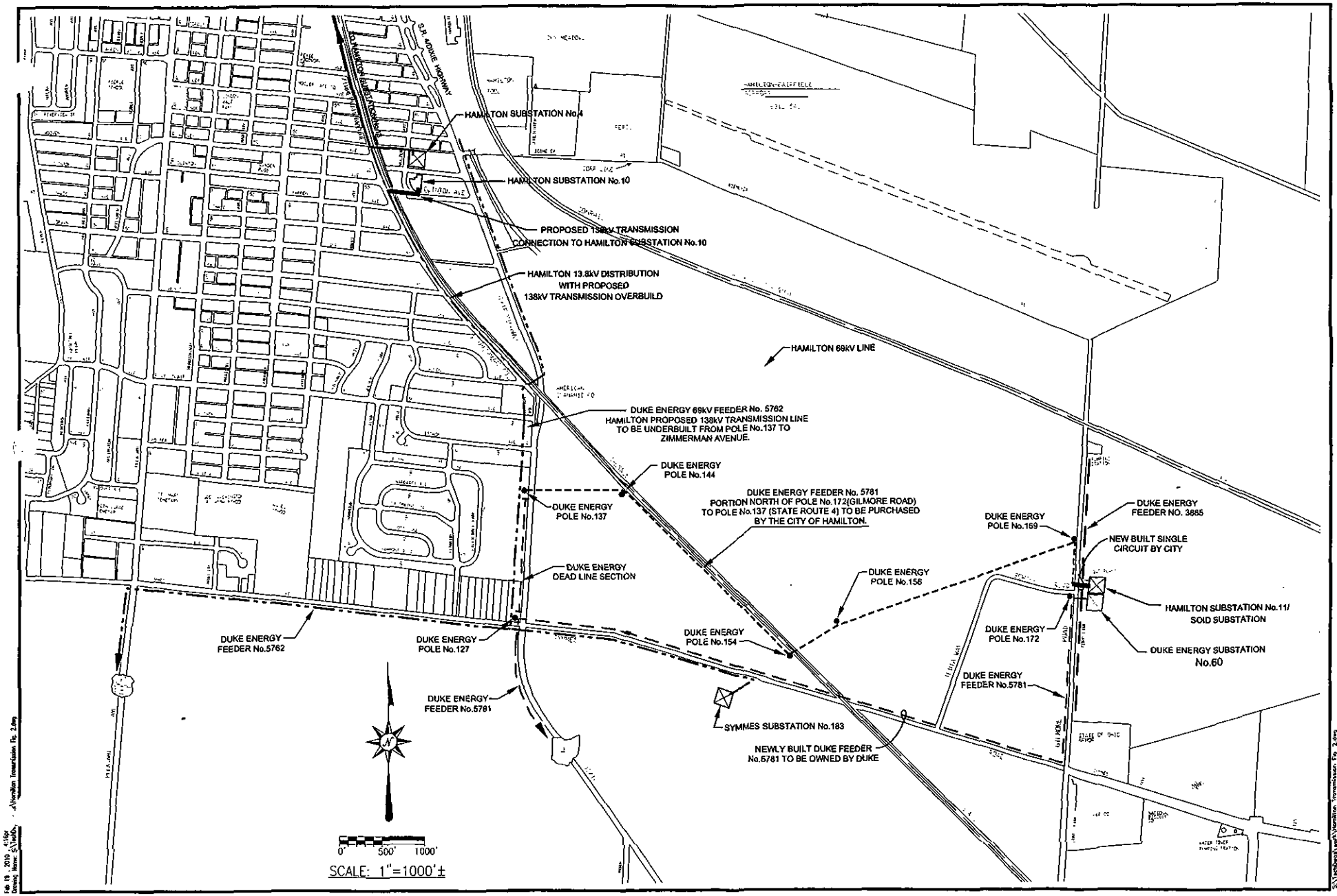
(3) The location of the project in relation to existing or proposed lines and stations shown on the maps and overlays provided to the Public Utilities Commission of Ohio in the applicant's most recent long-term forecast report.

The City of Hamilton is not subject to regulation by the Public Utilities Commission of Ohio; hence, a long-term forecast report with supporting maps and overlays has not been filed with the Commission. A map showing this project in relation to other electric transmission lines and substations within 1,000 feet of the transmission line centerline are included as **Figure 2**.

(4) The alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to impacts associated with socioeconomic, natural environment, construction, or engineering aspects of the project.

Alternatives to construction of this line were carefully considered by the city. "No build" alternatives included adding local base-load generation resources, conservation measures and alternate transmission system upgrades.

Adding local base load generation is not a feasible option because a new base load power plant requires an 8 – 10 year planning and permitting horizon which extends beyond the period of projected need for additional electric supply capacity. Moreover, local environmental quality issues such as Butler County's non-attainment designation for ozone and fine particulate matter may extend the permitting timeline or substantially increase the cost of the local generation option for fossil fuel–based generation projects. Because of substantial cost and schedule uncertainties that extend well beyond the projected need, this option was rejected.



AMP PUBLIC POWER PARTNERS

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1			
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FIGURE 2
Substation and Transmission Lines.
Within 1,000 Feet of the Proposed Project.

DES: B R.M.
DRN: B SU
CHK: B mlp
JOB No: MIT 138kV Hom.
DATE: 2-19-2010
DWG No: 1 OF 1

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Opportunities for reducing demand through improved load management and/or energy efficiency projects are frequently evaluated by the City and remain on-going. Where such programs result in a lower cost, reliable energy source for its customers, they are pursued. For example, the city encourages its customers to delay non-essential electric consumption to non-peak periods, and the city or its agents provide technical assistance designed to reduce energy peak demand and consumption. Because much of the projected load increase is expected to come from new, high technology businesses, demand control alone will be insufficient to meet the needs of new customers.

Hamilton performed load flow studies and performed other analyses to determine the least cost feasible means of increasing system reliability and capacity. Options besides the Substation No. 11 to Substation No. 10 transmission line failed to optimize system reliability and capacity and minimize costs.

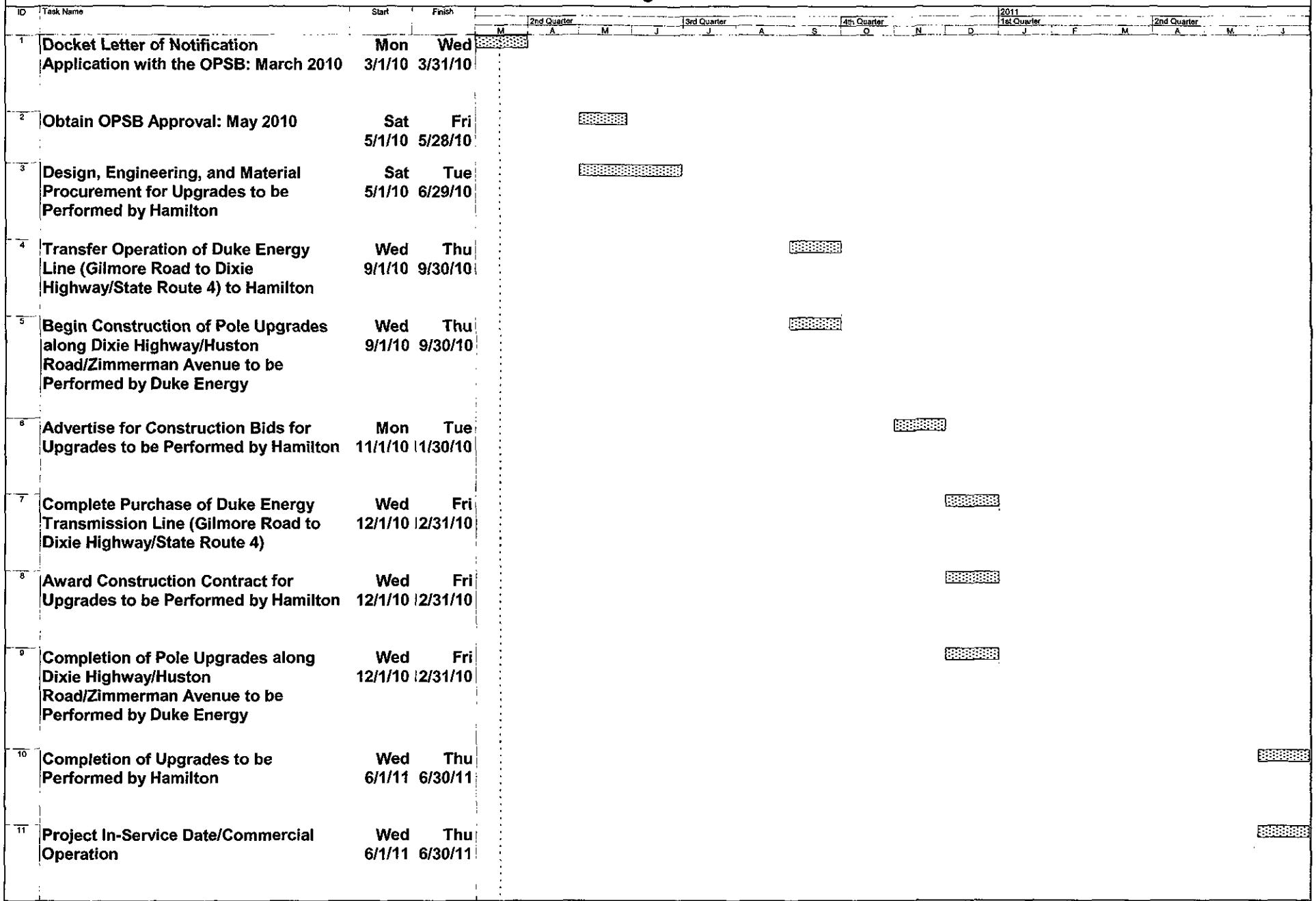
(5) The anticipated construction schedule and proposed in-service date of project.

The projected schedule for construction and operation of the Substation No. 11 to Substation No. 10 transmission line is summarized below:

- Docket Letter of Notification Application with the OPSB: March 2010
- Obtain OPSB Approval: May 2010
- Design, Engineering, and Material Procurement for Upgrades to be Performed by Hamilton: May 2010 – June 2010
- Transfer Operation of Duke Energy Line (Gilmore Road to Dixie Highway/State Route 4) to Hamilton: September 2010
- Begin Construction of Pole Upgrades along Dixie Highway/Huston Road/Zimmerman Avenue to be Performed by Duke Energy: September 2010
- Advertise for Construction Bids for Upgrades to be Performed by Hamilton: November 2010
- Complete Purchase of Duke Energy Transmission Line (Gilmore Road to Dixie Highway/State Route 4): December 2010
- Award Construction Contract for Upgrades to be Performed by Hamilton: December 2010
- Completion of Pole Upgrades along Dixie Highway/Huston Road/Zimmerman Avenue to be Performed by Duke Energy: December 2010
- Completion of Upgrades to be Performed by Hamilton: June 2011
- Project In-Service Date/Commercial Operation: June 2011

A graphical presentation of the schedule is provided in **Figure 3.**

Figure 3
Hamilton Long Line Schedule



ID	Task Name	Start	Finish
1	Docket Letter of Notification Application with the OPSB: March 2010	Mon 3/1/10	Wed 3/31/10
2	Obtain OPSB Approval: May 2010	Sat 5/1/10	Fri 5/28/10
3	Design, Engineering, and Material Procurement for Upgrades to be Performed by Hamilton	Sat 5/1/10	Tue 6/29/10
4	Transfer Operation of Duke Energy Line (Gilmore Road to Dixie Highway/State Route 4) to Hamilton	Wed 9/1/10	Thu 9/30/10
5	Begin Construction of Pole Upgrades along Dixie Highway/Huston Road/Zimmerman Avenue to be Performed by Duke Energy	Wed 9/1/10	Thu 9/30/10
6	Advertise for Construction Bids for Upgrades to be Performed by Hamilton	Mon 11/1/10	Tue 11/30/10
7	Complete Purchase of Duke Energy Transmission Line (Gilmore Road to Dixie Highway/State Route 4)	Wed 12/1/10	Fri 12/31/10
8	Award Construction Contract for Upgrades to be Performed by Hamilton	Wed 12/1/10	Fri 12/31/10
9	Completion of Pole Upgrades along Dixie Highway/Huston Road/Zimmerman Avenue to be Performed by Duke Energy	Wed 12/1/10	Fri 12/31/10
10	Completion of Upgrades to be Performed by Hamilton	Wed 6/1/11	Thu 6/30/11
11	Project In-Service Date/Commercial Operation	Wed 6/1/11	Thu 6/30/11

(6) An area map of not less than 1:24,000 scale clearly depicting the facility's location with clearly marked streets, roads, and highways, and clearly written instructions for locating and viewing the facility.

Appendix B contains a series of fifteen 1:1,200 section maps showing the transmission line with its origination and termination points. These maps include a color aerial photography background and stationing originating at Substation 11. The maps also include clearly identified major streets, roads, and highways within 1,000 feet of the project centerline. To assist regulatory personnel and other interested parties with location and observation of the transmission route, driving directions to Substation No. 10 and No. 11 are provided below.

To locate the transmission line origination point at Substation No. 11:

- From Interstate Highway 75 exit at State Route 129 (Butler County Regional Highway) and head west toward Hamilton.
- Exit at By-Pass State Route 4.
- Turn left at By-Pass State Route 4 .
- Turn right at Symmes Road.
- Turn right at Gilmore Road. Hamilton Substation No. 11 will be on the right at 8050 Gilmore Road.

To locate the transmission line termination point at Substation No. 10:

- From Interstate Highway 75 exit at State Route 129 (Butler County Regional Highway) and head west toward Hamilton.
- From State Route 129, turn left onto State Route 4.
- Turn right on Hooven Avenue and proceed to 1235 Hooven Avenue. Hamilton Substation No. 10 is on the left, bounded by Clinton, Hooven and Wulzen Avenues.

(7) A list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.

Table 1 is a list of properties that will be crossed by the transmission line ROW. Also included in **Table 1** is the stationing associated with the property crossings and the status of the land use rights and whether these rights already exist. For those portions of the proposed route where the utility rights are already controlled by the City of Hamilton or the City of Fairfield, no further action is necessary.

Hamilton is negotiating an agreement with Duke Energy to transfer ownership of a portion of Duke's Gilmore Road to State Route 4 138 kV transmission line and allow

joint use of a portion of its 138 kV transmission line along the west side of State Route 4 and Huston Road (Duke Energy feeder 5762). An agreement in principle has been reached. A final agreement, including rights to occupy the existing electric utility corridor, is expected to be consummated by December 2010.

Hamilton has also applied for a permit to cross CSX Transportation's Cincinnati-to-Toledo Line 3,525 feet south of CSX Railroad Station BC-24. A final permit is expected to be issue by CSX by December 2010.

Hamilton has secured the necessary easements from Cambridge Plaza of Ohio, LLC to allow construction of the transmission line from the CSX Railroad crossing to Wulzen Avenue.

Table 1
Properties Crossed by the Proposed Transmission Line Right-of-Way

Owner(s)	Easement Holder	Start Station	End Station	Transmission Line Rights Obtained	Pre-Existing Land Rights
City of Hamilton	N/A	0+00	0+40	Yes	Yes
MB Properties, Limited (adjacent)	City of Fairfield Public Right-of-Way	0+40	2+25	Yes	Yes
Debbie Symmes Investments, Limited (adjacent)	City of Fairfield Public Right-of-Way	2+25	5+10	Yes	Yes
Dale R. Cochran (adjacent)	City of Fairfield Public Right-of-Way	5+10	7+35	Yes	Yes
Debbie Symmes Investments, limited	Duke Energy	7+35	11+20	Yes	Yes
Fischer Investments Southwest, LLC	Duke Energy	11+20	12+30	Yes	Yes
MB Properties, Limited	Duke Energy	12+30	17+95	Yes	Yes
Debbie Symmes Investments, limited	Duke Energy	17+95	23+55	Yes	Yes
Julie Ann Heckler	Duke Energy	23+55	26+40	Yes	Yes
Debbie Symmes Investments, limited	Duke Energy	26+40	35+35	Yes	Yes

CSX Transportation	Duke Energy	35+35	36+68	Yes	Yes
Highland Fairfield Associates Limited Partnership	Duke Energy	36+68	40+73	Yes	Yes
CSX Transportation	Duke Energy	40+73	62+60	Yes	Yes
Highland Fairfield Associates Limited Partnership	Duke Energy	62+60	76+10	Yes	Yes
Fastenal Co. (adjacent)	City of Fairfield Public Right-of-Way	76+10	77+08	Yes	Yes
Tom & Tony, LLC (adjacent)	City of Fairfield Public Right-of-Way	77+08	78+00	Yes	Yes
PIM Group, LLC	Duke Energy	78+00	79+95	Yes	Yes
Valley View Rentals, LLC	Duke Energy	79+95	81+10	Yes	Yes
Thompson Okie	Duke Energy	81+10	82+78	Yes	Yes
Judith P. Bales	Duke Energy	82+78	84+50	Yes	Yes
William O. Thompson	Duke Energy	84+50	85+85	Yes	Yes
Joy Elaine Schliesman	Duke Energy	85+85	86+38	Yes	Yes
Kenneth L. Madden	Duke Energy	86+38	86+90	Yes	Yes
Edwina L. Richardson	Duke Energy	86+90	88+40	Yes	Yes
CSX Transportation	City of Hamilton	88+40	114+60	Yes	Yes
CSX Transportation	N/A	114+60	115+28	No; Railroad crossing permit pending.	No
Cambridge Plaza of Ohio, LLC	City of Hamilton	115+28	117+00	Yes	Yes
City of Hamilton	N/A	117+00	118+15	Yes	Yes

(C) Technical Features of the Project

(1) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

Operating Characteristics

The Substation No. 11 to Substation No. 10 transmission line is expected to be in service at all times except when it needs to be de-energized for maintenance or emergency conditions. The line is designed to operate at a nominal voltage of 138 kV. Due to changing conditions within the transmission system, the voltage level may fluctuate between 5% +/- of the nominal voltage level. Current levels on this line will also vary depending on the system conditions and the demand for electrical energy. Typical average load levels will result in current flows in the circuit of approximately 92 Amperes per phase. Weather extremes will cause increased loading and currents. In addition, lower loads and currents are expected during night hours and on weekends when most industries, commercial establishments and residences in Hamilton are operating at reduced capacity. Under peak conditions, the line is expected to carry 177 Amperes per phase. Under emergency conditions or if some other transmission facility in the regional transmission system is out of service, the line could experience 429 Amperes of current. The maximum rated current capacity of the line under emergency conditions is 960 Amperes per phase in the summer and 960 Amperes per phase in the winter. The aluminum wire capacity in the winter would be in the range of 1460 amps but Hamilton rates the line capacity at 960 amps winter and summer. These load levels are not expected under today's system conditions; however, such levels are possible with continued system growth and expansion, extreme weather conditions, and other outage situations. Operating characteristics are summarized in **Table 2** below.

Table 2
Transmission Line Operating Characteristics: Current Flow (Amperes per Phase) at Select Conditions

Typical Average	Peak Conditions	Emergency Conditions	Maximum Rated Summer Current Capacity	Maximum Rated Winter Current Capacity
92	177	429	960	960

Estimated Number and Types of Structures

For clarity, the proposed transmission line has been divided into five sections. Each section forms a distinct link in the overall route and requires similar work and structures to complete the line. Pole top construction standards for each structure type are provided in **Appendix D**.

Hamilton Substation No. 11 Connection (Section 1, Station 0+00 to Station 0+70)

The connection from Hamilton Substation No. 11 to the Duke Energy 138 kV transmission line paralleling the west side of Gilmore Road requires no new structures and no existing structures will be maintained. One existing structure will be replaced. The number and type of replacement pole structures are summarized in **Table 3** below.

Table 3
Estimated Number and Types of Existing and Replacement Pole Structures
Hamilton Substation No. 11 Connection

Structure Type	New	Replacement	Existing
69305	0	1	0

Duke Energy 138 kV Transmission Purchase (Section 2, Station 0+70 to Station 76+50)

As discussed above, Hamilton will purchase Duke Energy's 138 kV transmission line from Gilmore Road to State Route 4. Hamilton will use the 35 structures in this section "as is." No new or replacement structures will be erected. The number and types of existing pole structures are summarized in **Table 4** below.

Table 4
Estimated Number and Types of Existing and Replacement Pole Structures
Duke Energy 138 kV Transmission Purchase

Structure Type	New	Replacement	Existing
Standard #4	0	0	31
69302	0	0	2
69305	0	0	2

Duke Energy 69 kV Feeder 5762 Rebuild (Section 3, Station 76+50 to Station 88+40)

From the west side of State Route 4 to the intersection of Zimmerman Avenue and Huston Road, the proposed transmission line will jointly occupy Duke Energy's 69 kV Feeder 5762. To accommodate Hamilton's 138 kV circuit, Duke Energy's nine poles, hardware and fixtures will need to be upgraded. The number and types of replacement pole structures are summarized in **Table 5** below.

Table 5
Estimated Number and Types of Existing, Replacement and New Pole Structures
Duke Energy Feeder 5762 Rebuild

Structure Type	New	Replacement	Existing
Standard #6	0	7	0
Standard #7	0	1	0
Standard #8	0	1	0

Hamilton 13.8 kV Distribution Line Rebuild (Section 4, Station 88+40 to Station 114+60)

The proposed transmission line will jointly occupy an existing Hamilton 13.8 kV electric distribution line along the east side of Zimmerman Avenue. To accommodate the 138 kV circuit, 20 poles, hardware and fixtures will need to be upgraded. The number and type of replacement structures are included in **Table 6** below.

Table 6
Estimated Number and Types of Existing, Replacement and New Pole Structures
Hamilton 13.8 kV Distribution Line Rebuild

Structure Type	New	Replacement	Existing
Standard #1	0	18	0
Standard #2	0	1	0
Standard #3	0	1	0

Hamilton Substation No. 10 Connection (Section 5, Station 114+60 to Station 118+15)

The connection from Zimmerman Avenue, over the CSX Transportation railroad, and into Substation No. 10 will require the installation of two replacement poles with associated hardware and fixtures. The number and type of replacement pole structures are included in **Table 7** below.

Table 7
Estimated Number and Types of New Pole Structures
Hamilton Substation No. 10 Connection

Structure Type	New	Replacement	Existing
Standard #4	0	1	0
Standard #5	0	1	0

Right-of-Way and Land Requirements

As shown in **Table 1** above and the route maps provided in **Appendix B**, the vast majority (99.7 %) of the Substation No. 11 to Substation No. 10 transmission route lies within existing right-of-way (ROW) or on land owned by the City of Hamilton. New fragmentation of private property has been minimized. Except for the CSX Railroad crossing (Station 114 + 95 to Station 115 + 25), all property rights required to construct the transmission line have been obtained.

(2) For electric power transmission lines, the production of electric and magnetic fields during the operation of the proposed electric transmission line. The discussion shall include:

(a) Calculated electric and magnetic field strength levels at one meter above ground under the lowest conductors and at the edge of the right-of-way for:

(i) Normal maximum loading.
(ii) Emergency line loading.
(iii) Winter normal conductor rating.

Electric and magnetic fields are produced by the presence of voltage and current associated with any electrical device including the operation of the Substation No. 11 to Substation No. 10 transmission line. Electric fields are produced by voltage, and magnetic fields are produced by current. In both cases, the field strength is related to the source, the geometry of the source, the distance from the source, and the interaction of any other sources of electric and magnetic fields in the vicinity. Since the source geometry and other parameters vary by section, electric field strength calculations are specific to each section of the proposed line.

The electric field produced by a 138 kV transmission line is predictable and may be calculated for the specific wire geometry proposed for each section of this transmission line and the three operating conditions specified above. The calculated electric field values for each section are summarized in **Tables 8 - 12** below. The maximum electric

field for any condition on any section of the line is 3.2 % of the threshold of human sensation (15kV/m).

Electric fields can induce a voltage on metallic objects which may be located close to the transmission line. This is usually not a problem with 138 kV transmission lines because of the relatively high ground clearances used for this voltage level. The induced voltage can be eliminated by properly grounding the metallic objects. Although stray voltage problems are unlikely, the Hamilton Electric Department will work with adjacent property owners if any problems develop.

Table 8
Calculated Electric Field Values
Hamilton Substation No. 11 Connection
(Section 1, Station 0+00 to Station 0+70)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading (Single Contingency Outage)
Current (Amperes)	177	960	429
Electric Field at ROW Edge (kV/m)	0.535	0.535	0.535
Maximum Electric Field at Centerline (kV/m)	0.503	0.503	0.503

Table 9
Calculated Electric Field Values
Duke Energy 138 kV Transmission Purchase
(Section 2, Station 0+70 to Station 76+50)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading (Single Contingency Outage)
Current (Amperes)	177	960	429
Electric Field at ROW Edge (kV/m)	0.500	0.502	0.502
Maximum Electric Field at Centerline (kV/m)	0.518	0.518	0.518

Table 10
Calculated Electric Field Values
Duke Energy 69 kV Feeder 5762 Rebuild
(Section 3, Station 76+50 to Station 88+40)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading (Single Contingency Outage)
Current (Amperes)	177	960	429
Electric Field at ROW Edge (kV/m)	0.366	0.366	0.366
Maximum Electric Field at Centerline (kV/m)	0.168	0.168	0.168

Table 11
Calculated Electric Field Values
Hamilton 13.8 kV Distribution Line Rebuild
(Section 4, Station 88+40 to Station 114+60)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading (Single Contingency Outage)
Current (Amperes)	177	960	429
Electric Field at ROW Edge (kV/m)	0.121	0.174	0.122
Maximum Electric Field at Centerline (kV/m)	0.113	0.114	0.113

Table 12
Calculated Electric Field Values
Hamilton Substation No. 10 Connection
(Section 5, Station 114+60 to Station 118+15)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading (Single Contingency Outage)
Current (Amperes)	177	960	429
Electric Field at ROW Edge (kV/m)	0.331	0.331	0.332
Maximum Electric Field at Centerline (kV/m)	0.321	0.321	0.321

Magnetic fields can be calculated for electric transmission lines, but it is very difficult to predict instantaneous field strength at a particular location because the field is dependent on the total load current for each phase, the current of the shield wire or neutral, other magnetic fields in the vicinity including the earth's background magnetic fields, other grounding systems in the area, and other conditions. As electric load and current conditions change in the transmission line, so do the magnetic fields. Magnetic fields are not perceived by humans at the levels generated by electric transmission lines. Unlike electric fields, ordinary materials do not provide a shield from magnetic fields. Magnetic field impacts are expected to be insignificant. Magnetic field values for the transmission line sections under the three operating conditions listed above have been calculated and are summarized in **Tables 13 - 17**.

Table 13
Calculated Magnetic Field Values
Hamilton Substation No. 11 Connection
(Section 1, Station 0+00 to Station 0+70)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading
Current (Amperes)	177	960	429
Magnetic Field at Row Edge (mG)	8.6	33.2	13.5
Maximum Magnetic Field at Centerline (mG)	6.5	17.5	3.9

Table 14
Calculated Magnetic Field Values
Duke Energy 138 kV Transmission Purchase
(Section 2, Station 0+70 to Station 76+50)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading
Current (Amperes)	177	960	429
Magnetic Field at Row Edge (mG)	10.0	35.8	16.1
Maximum Magnetic Field at Centerline (mG)	6.5	18.2	4.1

Table 15
Calculated Magnetic Field Values
Duke Energy 69 kV Feeder 5762 Rebuild
(Section 3, Station 76+50 to Station 88+40)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading
Current (Amperes)	177	960	429
Magnetic Field at Row Edge (mG)	7.2	26.8	12.3
Maximum Magnetic Field at Centerline (mG)	3.8	12.9	3.2

Table 16
Calculated Magnetic Field Values
Hamilton 13.8 kV Distribution Line Rebuild
(Section 4, Station 88+40 to Station 114+60)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading
Current (Amperes)	177	960	429
Magnetic Field at Row Edge (mG)	13.8	24.2	13.9
Maximum Magnetic Field at Centerline (mG)	10.3	8.3	6.1

Table 17
Calculated Magnetic Field Values
Hamilton Substation No. 10 Connection
(Section 5, Station 114+60 to Station 118+15)

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading
Current (Amperes)	177	960	429
Magnetic Field at Row Edge (mG)	7.0	19.5	8.4
Maximum Magnetic Field at Centerline (mG)	6.1	8.6	2.6

(b) A discussion of the company's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

Research has not established a relationship between electric and magnetic fields and any adverse health effects. Nonetheless, the City of Hamilton practices prudent avoidance to the extent practicable.

The Hamilton Electric Department, through its standard design practices, has evaluated possible alternative conductor configurations and phasing arrangements to provide the lowest values of electric and magnetic field strengths at ground level, edge of ROW. All sections of the line will use dissimilar phasing on the different circuits to provide for lower magnetic fields associated with cancellation effects. The structure heights to be used have been designed to provide clearances over the ground and other objects to

permit an emergency operation level of conductor temperature at 212 degrees F with conductors at least 35 feet above ground. The national Electric Safety Code (NESC) requires electric transmission lines to be at least 18.5 feet above ground. The better than minimal heights above ground provide low values of electric and magnetic fields.

Finally, the city has selected the route that minimizes incremental long term exposure to electric and magnetic fields by avoiding new impacts to residences and other sensitive land uses occupied by people for extended periods of time (i.e., greater than 8 hours per day).

(3) The estimated cost of the project by federal energy regulatory commission account, unless the applicant is not an electric light company, a gas company or a natural gas company as defined in Chapter 4905 of the revised Code (in which case, the applicant shall file the capital costs classified in the accounting format ordinarily used by the applicant in its normal course of business).

Cost estimates for the five sections of the project are identified in **Table 18**. Total project cost is expected to be $2,121,400 (2010 USD). Because design of the line has not been completed and the recent instability in building supply costs, the capital costs should be considered budgetary estimates +/- 20%.

Table 18
Estimated Capital Costs

Project Accounts	2010 USD ($)
Hamilton Substation No. 11 Connection to Duke Energy Gilmore Road to State Route 4 Transmission Line/ Hamilton Zimmerman Avenue 13.8 kV Distribution Line Rebuild/ Hamilton Zimmerman Avenue Connection to Hamilton Substation No. 10	$343,200
Purchase of Duke Energy Gilmore Road to State Route 4 Transmission Line	$1,207,200
Duke Energy 69 kV Feeder 5762 Rebuild	$571,000
Total Project Cost	$2,121,400

(D) Socioeconomic data. Describe the social and ecological impacts of the project. The description shall contain the following information:
(1) A brief, general description of land use within the vicinity of the proposed project, including:
(a) a list of municipalities, townships, and counties affected; and
(b) estimates of population density adjacent to rights-of-way within the study corridor (the U.S. census information may be used to meet this requirement).

Hamilton conducted a general socioeconomic, ecological and environmental survey of the proposed transmission route and nearby areas to evaluate the impacts associated with the construction and operation of the line. This study included field surveys, review of land use maps, review of population estimates and projections for the area, and a review of local and regional development plans. Hamilton used this information in selecting the route, assessing the transmission line construction and operation issues along the route, and assessing the potential social and economic impacts on the adjacent land uses.

Land Use Impacts

The transmission line route from Substation No. 11 to the crossing of the CSX Transportation railroad at Station 35 + 30 is dominated by light industry, vacant industrial park parcels (some of which are planted in row crops) and a construction/demolition/debris landfill. From the CSX crossing, land use is dominated by the railroad corridor, vacant industrial land and the redeveloped GM Fisher Body Plant.

The west side of State Route 4 is dominated by commercial store fronts until land use abruptly changes to a historic residential structure and a multi-story apartment building just south of Bishop Avenue. From Bishop Avenue north and Zimmerman Avenue, land use west of the transmission line is dominated by an established residential neighborhood. East of the line is heavily traveled State Route 4 (Dixie Highway)/Huston Road or the CSX Transportation railroad.

Near the Substation 10 termination point, the transmission line passes over the CSX Railroad (Station 114 + 60) and through a narrow strip of undeveloped commercial land. Substation 10 is bounded by commercial establishments; however, some established residences are also nearby.

The construction and operation of the transmission line is not expected to have a significant impact on existing land uses, including urban residences, as very little new construction is required. Temporary impacts to existing residences are likely to be limited to intermittent low-level construction noise and temporary partial street closures. To lessen the impacts, construction activities will be limited to daylight hours only and carefully coordinated to minimize public inconveniences. No land uses will need to be moved or modified as a result of this project.

Socioeconomic Impacts

This project is being undertaken as part of the City of Hamilton's strategic plan to provide the electric infrastructure necessary to spur development and improve the reliability and efficiency of Hamilton's electric transmission and distribution system. Hamilton's position as the primary electric energy supplier within its corporation limits provides an opportunity for its customers, especially high technology, start-up companies to obtain delivery of reliable and economical electrical energy.

The construction of this transmission line will have a significant impact on the local economy beyond the short term stimulus provided by the construction activities and procurement of local goods and services. The transmission line will be used to supply economical, reliable electrical energy to Hamilton residents and commercial/industrial customers. The successful development of this project is expected to aid business retention and attract new businesses, providing a substantial number of new jobs. Job development will help retain and enhance the existing mixed land use community and improve the economy in the vicinity of the transmission line.

Municipalities, Townships, and Counties Affected

This project lies within the City of Hamilton between station 0 + 00 and 0 + 40 and Station 79 + 95 and 118 + 15. Station 0 + 40 to Station 79 + 95 lies within the City of Fairfield. Both Fairfield and Hamilton lie within Butler County. Hamilton is the seat of government for Butler County and the largest city in the county.

Population

The transmission line route lies within or adjacent to Butler County Census Tracts 1, 2, 4, 109.04 and 109.06. Population figures derived from U.S. Census published data for these Census Tracts and the broader region are summarized in **Table 19** below. Additional census data is included in the Environmental Documentation Report prepared by BBCM **(Appendix E)**.

Table 19
Study Area Demographics

Location	1990 Census	1990 Population Density	2000 Census	2000 Population Density
City of Hamilton, Ohio	61,368	2,777	60,690	2,746
City of Fairfield	39,729	1,806	42,097	1,914
Butler County, Ohio	291,479	623.8	332,807	712.2
Census Tract 1	4,853	7,147	4,726	6,960
Census Tract 2	5,075	3,476	4,287	2,936
Census Tract 4	4,858	5,108	4,317	4,539
Census Tract 109.04	4,112	2,663	3,805	2,464
Census Tract 109.06	6,484	1,873	6,711	1,938
Census Tract 110.01	9,451	2,375	5,765	1,448

Source: US Census Bureau (http://factfinder.census.gov and http://www2.census.gov)

(2)The location and general description of all agricultural land (including agricultural district land) existing at least sixty days prior to submission of the letter of notification within the proposed electric power transmission line right-of-way, or within the proposed electric power transmission substation fenced-in area, or within the construction site boundary of a proposed compressor station.

The route maps provided in **Appendix B** indicate row crop activity between Station 2 + 50 and Station 12 + 00 and between Station 18 + 30 and Station 26 + 35. These areas are located in a platted industrial park and vacillate from production to fallow depending on commodity prices and the possibility of conversion to higher value land use activities. Their use for agricultural production is expected to be temporary. None of this land lies within an established agricultural district.

(3)A description of the applicant's investigation (concerning the presence or absence of significant archeological or cultural resources that may be located within the area likely to be disturbed by the project), a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

The City of Hamilton retained the services of Ohio Valley Archaeology, Inc. (OVAI) to conduct a Phase I Cultural Resource Literature Review and Field Survey in the vicinity of the Substation No. 11 to Substation No. 10 Transmission Line Project. OVAI determined the proposed transmission line project will not impact known cultural resources and has little or no potential to affect archaeological sites. A copy of OVAI's report was provided to the Ohio Historic Preservation Office (OHPO) on 11 January 2010. The OHPO in a letter dated 17 March 2010 concurred with OVAI's findings. A copy of the transmittal letter and OVAI's report and OHPO's response is provided in **Appendix F**.

For convenience, OVAI's summary of their investigation findings is reproduced below:

> *No previously recorded cultural resources (OAIs, OHIs, or NRHP properties/district are located within the Substation 11 to Substation 10, 138 kV Transmission Line project in the city of Hamilton and City of Fairfield, Butler county, Ohio. No structures appear to be within the Proposed Route on the 1875 atlas, 1915 15' USGS map or the current 1965 (PR 1981 and 1988) 7.5' USGS maps, although one structure does appear adjacent on the 15' USGS map and several on the current 7.5' USGS map. Currently, the Proposed Route will be adjacent to two OHIs, BUT-1366-09 and BUT-1370-12. Because the ProposedRroute follows an existing power lines and will be installed on existing poles, it will not create a new visual impact on the two adjacent OHIs (Plates 11-13). In addition, modern residential and commercial structures are adjacent to these OHIs (Plate 11).*
>
> *Based on the map information extending back to 1875, it is unlikely that significant historic-era archaeological sites will be impacted by the proposed project. Because the Proposed Route will utilize existing poles, for the most part, they will not have a new visual impact on any historic properties or structures. Likewise, this alignment is unlikely to have an impact on archaeological resources. In sum, the Substation 11 to Substation 10, 138 kV Transmission Line project will not impact known cultural resources. No further work is recommended for the project.*

(4) Documentation that the chief executive officer of each municipal corporation and county, and the head of each public agency charged with planning land use in the area in which any portion of the facility is to be located have been notified of the project and have been provided a copy of the letter of notification. The applicant shall describe the company's public information program used in the siting of the proposed facility. The information submitted shall include either a copy of the material distributed to the public or a copy of the agenda and summary of the meeting(s) held by the applicant.

Since the announcement of the expansion plans for the City of Hamilton Electric System, Hamilton has diligently kept open lines of communication with community leaders and the general public regarding the proposed transmission line. A list of community leaders and organizations contacted regarding the Application is listed in **Appendix G**.

Leaders contacted included the chief executive officers (CEO's) for the City of Fairfield, City of Hamilton and Butler County as well as the heads of the OKI Regional Planning Commission and the Butler County Department of Development Planning Commission. Butler County Metroparks' Chief of Operations was also contacted regarding possible impacts to Gilmore Ponds Metropark. The Fairfield, Hamilton and Butler County CEO's and the OKI and Butler County planning commissions will also be provided with a complete copy of the Letter of Notification application concurrent with submission to the Ohio Power Siting Board. Documentation of this service will be provided as a supplement to this Letter of Notification application.

The Hamilton Electric Department has participated in meetings with federal, state and local elected and appointed officials affected by their strategic plan and this project. Hamilton representatives have also attended and participated in local meetings and have regularly communicated with interested parties as significant developments occur. Attendance at local community meetings has enabled Hamilton to provide updates on the project to the business community and area residents.

Throughout the planning, approval and construction phases, Hamilton will continue to keep the public informed of significant project developments. Sample letters announcing the project to local government officials, City of Hamilton residents and City of Fairfield businesses affected by the project will be mailed concurrent with submission of this Letter of Notification. Copies of the sample letters are included in **Appendix H**. Also, Hamilton has assigned Mr. Jerry Flick, Field Service Superintendent, the responsibility of working with the news media and coordinating other public education efforts and requests for information related to this project.

(5) A brief description of any current or pending litigation involving the project known to the applicant at the time of the letter of notification.

There is no known litigation at this time.

(6)A listing of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and construction of the project.

Local Requirements

- None

State Requirements

- Ohio EPA Storm Water Pollution Prevention Plan (SWP3)and Notice of Intent(NOI)/Notice of Termination (NOT) if more than one acre of land is disturbed
- Ohio Power Siting Board (OPSB) Approval of Letter of Notification

Federal Requirements

- None

An SWP3 is required by Ohio General Permit OHC000003 for construction activities disturbing more than one acre of land. While the construction of individual transmission line components is not expected to disturb more than one acre, the overall project may disturb more than one acre. The permitting process is initiated by the submission of a NOI to be covered by Ohio EPA General Permit OHC000003 at least 21 days prior to the start of construction. Ohio EPA will acknowledge coverage with an approval letter. A NOT must be filed to end coverage.

Because storm water pollution prevention is specific to the field conditions and the construction techniques employed, preparation of the SWP3 will be the general contractor's responsibility. The Hamilton Electric Department and any subcontractors will approve the plan and abide by its requirements as co-permitees. A copy of General Permit OHC000003 and the NOI and NOT forms are included in **Appendix I.**

The OPSB Letter of Notification approval is the subject of this application. It is important to note, with the exception of the OPSB Letter of Notification, none of the state permits identified above impact the design of the project and do not represent critical path items that must be resolved prior to OPSB approval.

(E) Environmental data. Describe the environmental impacts of the proposed project. This description shall include the following information:
(1) A description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the area likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

The United States Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) were contacted regarding the potential for occurrence of endangered species, threatened species, rare species, species proposed for listing, species under review for listing and species of special interest within the proposed project corridor. ODNR's Division of Natural Areas and Preserves (DNAP) reported the project is within five miles of an Indiana bat (*Myotis sodalis*) record. The Indiana bat is both a state and federal endangered species. DNAP also noted nearby records for the species

listed in **Table 20**. A complete copy of DNAP's response is provided in the Environmental Documentation Report prepared by BBCM.

Table 20
State and Federal Designated Species Records Near the Proposed Project

Scientific Name	Common Name	State Status	Federal Status	Date Last Observed
Clonophis kirtlandii	Kirtland's Snake	Threatened	Not Listed	10/25/1991
Cyperus acuminatus	Pale Umbrella-sedge	Threatened	Not Listed	7/26/2000
Echinodorous berteroi	Burrhead	Endangered	Not Listed	8/28/1996
Echinodorous berteroi	Burrhead	Endangered	Not Listed	8/28/1996
Echinodorous berteroi	Burrhead	Endangered	Not Listed	8/28/1996
Echinodorous berteroi	Burrhead	Endangered	Not Listed	9/11/1996
Ixobrychus exilis	Least Bittern	Threatened	Not Listed	6/1991
Nycticorax nycticorax	Black-crowned Night-heron	Threatened	Not Listed	7/15/1990
Porzana carolina	Sora Rail	Special Concern	Not Listed	5/1983
Porzana carolina	Sora Rail	Special Concern	Not Listed	7/1990

ODNR's Division of Wildlife (DOW) reported the project is within the range of the federal endangered Indiana bat and the following state endangered species:

- Blue corporal dragonfly (*Ladona deplanata*)
- Kramer's cave beetle (*Pseudonaphthalmus Kramer*)
- Ohio cave beetle (*Pseudonaphthalmus ohioensis*)
- Cave salamander (*Eurycea lucifuga*)

The DOW determined that impacts to the Indiana bat can be avoided by conserving roost trees and limiting tree cutting to the period between September 30 and April 1. The DOW also determined impacts to the blue corporal dragonfly are unlikely due to its mobility, and impacts to Kramer's cave beetle and the Ohio cave beetle are unlikely because Ohio's Cave Protection Law (ORC Section 1517.21) protects caves from impacts.

The DOW concluded the project lies within the range of the cave salamander and this species has been found in Fairfield Township, Butler County. Due to proximity to current records, the DOW recommended a habitat survey be conducted. Jeffrey G. Davis, an

expert herpetologist approved by the DOW and familiar with the project area, concluded Eastern box turtles (*Terrapene c. carolina*), a species of special concern; Kirtland snakes, a state threatened species; and the Eastern cricket frog (*Acris c. crepitans*), a species of special concern, may also be present in the project area. Mr. Davis conducted a habitat survey on March 21, 2009 and concluded suitable habitat for the cave salamanders and the Eastern box turtle does not exist in the project area and no further study is recommended. A small area paralleling the unnamed tributary to Pleasant Run (Station 42 + 10) is suitable habitat for cricket frogs. However, the limited amount of habitat does not justify a presence/absence survey. Mr. Davis did note the presence of suitable habitat, cover and forage for the Kirtland snake right of Station 14 + 90 to Station 17 + 28 and recommended a presence/absence study for this species. A presence/absence survey has not been conducted because there will not be any land disturbance in this section of the project. A copy of Mr. Davis' habitat survey report is included in **Appendix J**.

The USFWS initially identified potential impacts on the state and federal endangered Indiana bat based on a known Indiana bat capture site within 4.5 miles southwest of the proposed project corridor. To thoroughly evaluate potential impacts on the Indiana bat, USFWS requested additional information in a letter dated 05 January 2009. In response, Hamilton conducted an Indiana bat habitat survey on 16 December 2009 and reported the results to USFWS in a letter dated 10 February 2010. In a letter dated 05 March 2010, USFWS concluded that potential impacts to the Indiana bat will be insignificant and discountable, and that Hamilton should limit cutting to only the trees necessary to maintain safe construction and operating conditions and confine cutting/trimming to the October 1 to March 30 time frame. Copies of USFWS' request for additional information, Hamilton's response, and USFWS' concurrence are included in **Appendix K**. After careful consideration, Hamilton determined possible impacts to the Indiana bat can best be mitigated through (1) a minimalist approach to tree cutting and trimming and (2) limiting cutting and trimming activities to the time period between October 1 and March 30.

(2) A description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the areas likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

ODNR's DNAP was contacted regarding the presence of areas of ecological concern within the route boundaries. DNAP concluded: "There are no existing or proposed state nature preserves at the project site. We are also unaware of any unique ecological sites, geologic features, breeding or non-breeding animal concentrations, state parks, state forests, scenic rivers, or wildlife areas within the project area. However, the site is near the Gilmore Ponds Preserve. The Metroparks of Butler County should be contacted regarding possible impacts [to] the preserve. They can be reached at (513) 867-5835. The

red line on the map represents the approximate boundary of the preserve." As mentioned above, a copy of the DNAP response is provided in the Environmental Documentation Report prepared by BBCM **(Appendix D)**.

A literature review and field survey within 1,000 feet of the transmission line centerline was conducted to verify DNAP's conclusions and identify ecological features outside the purview of DNAP. The literature review included the Butler County Auditor's Geographic Information System, the United States Geological Survey (USGS) 7.5' topographic quadrangle maps, National Wetlands Inventory (NWI) maps, and soil survey maps for Butler County.

The literature review and field survey found no evidence of national forests, federal parks, designated or proposed federal or local wildlife refuges, federal or local wildlife management areas, federal or local wildlife sanctuaries, or wetlands near the transmission route. The Gilmore Ponds Metropark is adjacent (east and northeast) to the transmission line at Station 6 + 00, within the Duke Energy Transmission Line Purchase Section. Approximately 0.16 acres of the metropark lies within 1,000 feet of the project centerline. Since no new construction is planned in this section, no incremental impact on the park is expected.

As requested by DNAP, Butler County Metroparks' Chief of Operations was contacted and briefed on the nature of the project. The chief was concerned with proper restoration of park trails. Impacts to park trails are not anticipated since the project does not cross or adjoin Gilmore Ponds Metropark property.

The field survey also identified two Class 1 headwater streams and a warm water habitat stream (un-named tributary to Pleasant Run) along the transmission route. Headwater Stream 1 crosses at Station 27 + 00. Headwater Stream 2 crosses at Station 35 + 50 and 41 + 90. The tributary to Pleasant Run crosses at Station 42 + 10. Each of these streams lies within the Duke Energy Transmission Line Purchase Section where no land disturbance activity is planned. Therefore, no incremental impact on these water bodies is expected. A copy of the Preliminary Jurisdictional Waters (wetlands) Delineation report is provided in the Environmental Documentation Report prepared by BBCM **(Appendix D)**.

The proposed transmission line is located within Zone C of the March 15, 1979 Flood Insurance Rate Map for the City of Fairfield, Ohio (Community-Panel Number 390038 0005 B) and Zone C of the February 15, 1985 Flood Insurance Rate Map for the City of Hamilton (Community-Panel Number 390039 0010 D). Zone C is defined as "Areas of Minimal Flooding." Copies of the referenced Flood Insurance Rate Maps are provided in the Environmental Documentation Report prepared by BBCM **(Appendix D).**

(3) Any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

Unusual conditions are not known to exist and were not encountered during the field surveys associated with the transmission route.

Appendix A

Sales and Service Agreement between Duke Energy Ohio, Inc. and the City of Hamilton, Ohio

Duke Energy Ohio, Inc.
Electric Rate Schedule FERC No. 61

SALES AND SERVICES AGREEMENT
BETWEEN
DUKE ENERGY OHIO, INC.
AND
THE CITY OF HAMILTON, OHIO

This Services Agreement ("Agreement") is entered into as of this 1st day of February, 2010 by and between The City of Hamilton. Ohio ("Hamilton"), a municipality located in Butler County, Ohio and Duke Energy Ohio, Inc. ("DEO"), a corporation organized and existing under the laws of the State of Ohio. Hamilton and DEO may be sometimes referred to individually as "Party" or both collectively as "Parties".

WHEREAS, Hamilton owns and maintains certain poles, wires, cables, fixtures and equipment for the transmission and the distribution of electrical energy both within and near the limits of the City of Hamilton, Ohio; and

WHEREAS, DEO also owns and maintains certain poles, wires, cables, fixtures and equipment for the transmission and the distribution of electrical energy within, through, and near the limits of the City of Hamilton, Ohio; and

WHEREAS, Hamilton has requested joint use of certain transmission facilities and the re-routing of other certain facilities in order to more efficiently plan its transmission system and DEO has agreed to such work;

NOW THEREFORE, in consideration of the above recitals and the mutual promises and the terms and conditions set forth below, the Parties, for themselves and their successors and assigns, hereby agree as follows:

This Agreement provides for the performance of certain engineering, design, bid specification, procurement and construction activities by DEO and the payment for such activities by Hamilton related to three separate transmission projects requested by Hamilton. The three projects are as follows:

- Re-route Feeder 5781 – Construct a new section of 138 kV Feeder 5781 which extends from Fairfield Substation to the City of Hamilton Substation (see Exhibit A attached) in order to allow a re-route of the circuit ("Feeder 5781 Re-route Project"). The estimated cost of the Feeder 5781 Re-Route Project, including the sale of the existing 1.5 mile section of the line (selling price of $1.00), is approximately $1,207,200, of which Hamilton has paid $5,000 to start engineering of the project. The Feeder 5781 Re-route Project line will allow an existing 1.5 mile section of the

line, including all appropriate rights-of-way, between pole number 172 and pole number 137 to be sold to Hamilton. The Parties will enter into a separate agreement that will set forth the terms and conditions of the sale of the aforementioned line and rights-of-way.

- Feeder 3865 Joint Use – Rebuild a section of the 69 kV Feeder 3865 (see Exhibit B attached) to allow Hamilton to attach to the pole line in order to facilitate the routing of Hamilton-owned 69 kV and 138 kV lines ("Feeder 3865 Rebuild Project"). Feeder 3865 extends from the Port Union Substation to the St. Clair Substation with a tap Millville Substation. The estimated cost of the Feeder 3865 Rebuild Project is approximately $804,500, of which Hamilton has paid $5,000 to start engineering of the project.

- Feeder 5762 Joint Use – Rebuild a section of the 69 kV Feeder 5762 (see Exhibit C attached) to allow Hamilton to attach to the pole line in order to facilitate the routing of Hamilton-owned 138 kV lines ("Feeder 5762 Rebuild Project"). Feeder 5762 is a three terminal line from the Fairfield – St Clair – Miller Brewing Substations. The estimated cost of the Feeder 5762 Rebuild Project is approximately $571,000.

- The Feeder 5781 Re-Route Project, the Feeder 3865 Rebuild Project and the Feeder 5762 Rebuild Project are collectively referred to herein as the "Project." The total estimated cost of the Project is $2,582,700.

The Parties hereby agree as follows:

1. Hamilton hereby authorizes DEO to proceed with design, engineering, bid specification activities, and equipment purchases necessary for the completion of the Project.

2. DEO has provided an estimate for the Project to Hamilton. However, Hamilton shall pay all of DEO's actual costs and expenses, including overheads, to complete the Project. DEO shall invoice Hamilton twice during this Project. The first invoice shall include the cost of the Project engineering and cost of materials. This invoice will be sent prior to equipment order. Upon completion of the Project, DEO shall promptly invoice Hamilton the balance due. Hamilton shall remit payment within 30 days to the location set forth on the invoices.

3. If Hamilton cancels the Project, or any portion thereof, before the Project is complete, Hamilton will be responsible to pay all costs incurred by DEO before the cancellation. In addition, Hamilton shall also pay any costs needed to return the system to its normal condition.

4. DEO shall keep Hamilton informed, via monthly reports sent to Hamilton's designated representative, Alan McIntire, Supervising Mechanical Engineer, as to the progress of the engineering, design, bid specification procurement and construction activities performed under this Agreement.

5. The Parties intend that all costs paid by Hamilton to DEO under this Agreement shall be non-taxable contributions to capital, and shall not be taxable as contributions in aid of construction ("CIAC"). This presumption notwithstanding, in the event Federal or state income taxes are imposed upon DEO with respect to such payments as a CIAC by the Internal Revenue Service (IRS) and/or a state department of revenue (State), Hamilton agrees to reimburse DEO for the tax effect of such CIAC (a "Tax Effect Recovery Factor" or "TERF"), including any interest and penalty charged to DEO by the IRS and/or State. The TERF shall be computed in accordance with FERC rules.

6. This Agreement shall be governed by and construed in accordance with the laws of the State of Ohio.

7. In the event that a dispute arises over the interpretation or application of any provision of this Agreement or the grounds for termination thereof, the dispute shall, at the election of either Party, be submitted for final and binding arbitration by the American Arbitration Association under its Commercial Arbitration Rules (the "Rules"). Such arbitration shall be held in Cincinnati, Ohio and conducted by one arbitrator selected in accordance with the Rules. The decision and award of the arbitrator shall be in writing, signed and served upon the Parties. All costs and expenses (including arbitrator's fees and expenses and attorney's fees and expenses) of the prevailing party shall be borne by the losing party or, in the event that the prevailing party has not prevailed entirely on its claim(s), then such costs and expenses shall be awarded in proportion to the award as the arbitrator, in his sole discretion, may determine. The arbitration award shall be final and binding upon the Parties and shall not be subject to further review by any court or other judicial or governmental body in any jurisdiction. Nothing in this paragraph shall prevent any Party from seeking injunctive relief in a judicial proceeding if interim relief from a court is necessary to preserve the status quo pending resolution or to prevent serious and irreparable injury to that Party or others, provided that the underlying dispute is resolved pursuant to the provisions of this paragraph.

8. Hamilton and DEO hereby recognize that, pursuant to the Federal Energy Regulatory Commission's Regional Transmission Organization ("RTO") policy, functional control over the facilities that are the subject of this Agreement may be transferred to the RTO (The applicable RTO is the Midwest Independent Transmission System Operator, Inc.)

9. Each Party shall operate its facilities in accordance with good utility practices and North American Electric Reliability Corporation ("NERC") Standards, ReliabilityFirst Corporation ("RFC") Criteria and any applicable directives of NERC and RFC, or any successor reliability organizations. DEO makes no representations or warranties relating to the Project. HAMILTON EXPRESSLY ACKNOWLEDGES, UNDERSTANDS AND AGREES THAT DEO HAS NOT MADE, DOES NOT MAKE AND WILL NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES AS TO ANY MATTER WHATSOEVER, INCLUDING WITHOUT

LIMITATION THE PROJECT, ITS MERCHANTABILITY OR ITS FITNESS FOR ANY PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY EXPRESSLY DISCLAIMED.

10. DEO SHALL HAVE NO LIABILITY FOR CLAIMS OF ANY KIND WHETHER BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), UNDER ANY WARRANTY OR OTHERWISE, FOR ANY LOSS OR DAMAGE ARISING OUT OF OR RELATED TO THIS AGREEMENT INCLUDING WITHOUT LIMITATION ANY CONSEQUENTIAL, INDIRECT, SPECIAL OR INCIDENTAL LOSS OR DAMAGE. Hamilton shall indemnify, defend and hold DEO, its affiliates and their respective officers, directors and employees harmless from and against any claims, demands, losses, suits, judgments, damages and expenses (including reasonable attorneys' fees) relating to or arising out of the Project, including without limitation the resale, use, operation, possession or maintenance of, or the failure to use, operate, maintain or secure, the Project, on or after the date of completion of the Products.

11. This Agreement shall not be assigned by either Party without the prior written consent of the other, provided however, DEO may assign this Agreement as the result of any merger, acquisition or spin-off without such prior consent.

12. No waiver by any Party of any breach by another Party of any provision hereof shall be deemed to be a waiver of any other breach thereof or as a waiver of any such or other provision of this Agreement.

13. This Agreement shall be binding upon and shall inure to the benefit of the Parties hereto and their respective successors and permitted assigns.

14. This Agreement constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes and cancels all prior or contemporaneous oral or written agreements and understandings with respect to the subject matter hereof. All exhibits to this Agreement are hereby incorporated herein by reference. No purchase order delivered by Hamilton under this Agreement shall modify or supplement the terms and provisions of this Agreement, the Parties acknowledging and agreeing that any different or supplemental terms contained therein are contained therein solely for the convenience of Hamilton so that Hamilton may use its standard purchase orders and shall have no affect whatsoever on this Agreement and shall be treated as if they do not exist. This Agreement may not be changed or modified orally or by any such purchase order, but only by an instrument in writing signed by the Parties hereto which instrument unequivocally states that it is an amendment to this Agreement.

15. If any provision of this Agreement is declared invalid or unenforceable as a matter of law, such invalidity or unenforceability shall not affect or impair the validity or enforceability of any other provision of this Agreement or the remainder of this Agreement as a whole.

16. DEO shall not be liable to Hamilton for delays where such failure or delay is due to fire, strike, labor trouble, act of God, loss or damage during transportation, acts of subcontractors or suppliers, laws or regulations of any governmental authority, incorrect, delayed or incomplete information provided by Hamilton or any other cause or condition beyond the reasonable control of DEO.

17. Any written notice or demand under this Agreement shall be given to a Party by mailing such notice certified mail, return receipt requested, with proper postage affixed at the address set forth for such Party on the signature page of this Agreement or at such other address as that Party may provide in writing from time to time pursuant to this Section 17. Such notice or demand so mailed shall be effective when actually received by the intended Party.

18. This Agreement may be executed in duplicate counterparts, each of which shall be deemed an original hereof.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be signed by their duly authorized representatives, as of the date first above written.

THE CITY OF HAMILTON, OHIO

By: _____

Printed Name:

Title:

DUKE ENERGY OHIO, INC.

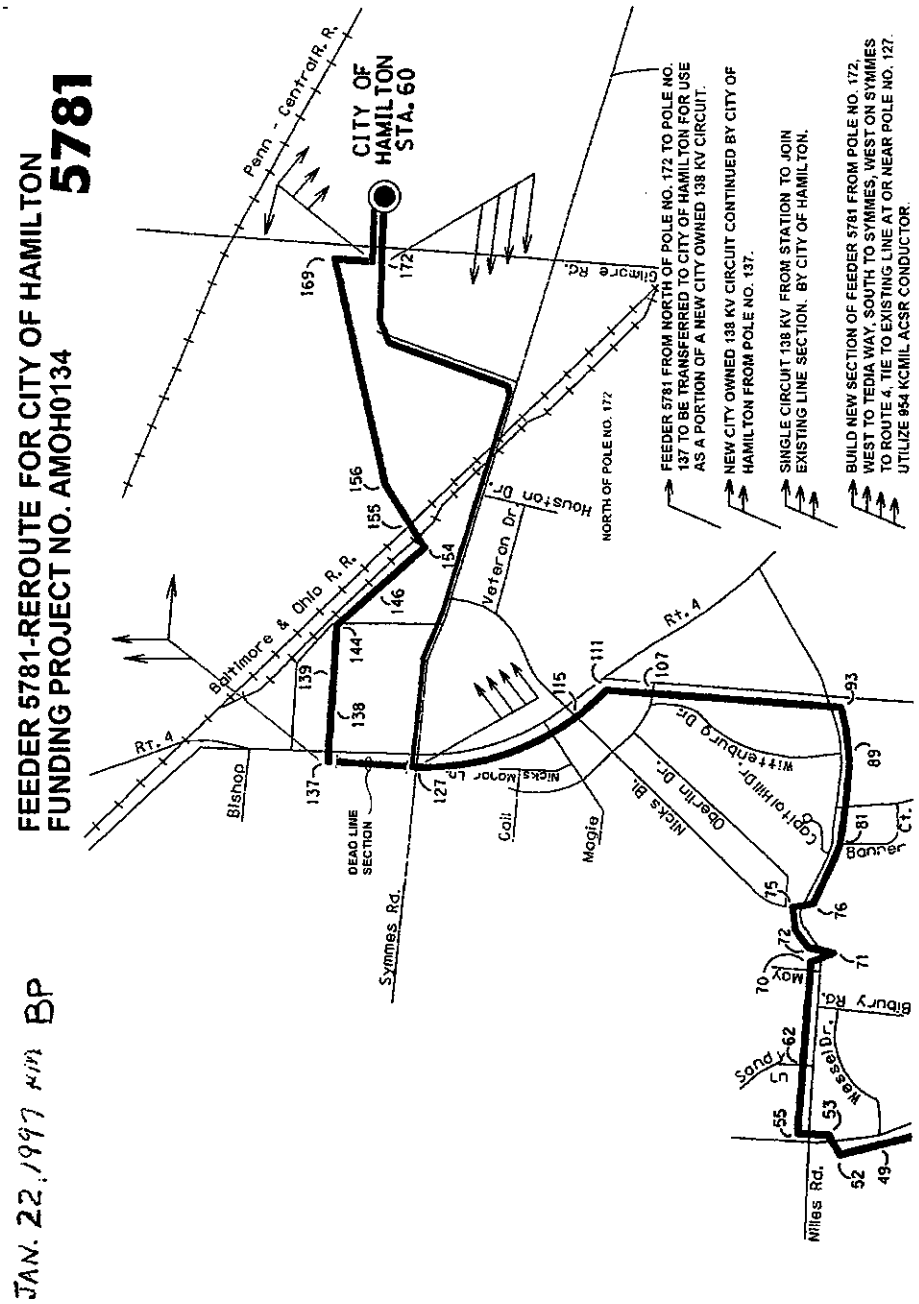
By: _____

Printed Name: Ronald C. Snead

Title: Vice President, Asset Management

Duke Energy Ohio, Inc.
Electric Rate Schedule FERC No. 61

EXHIBIT A
FEEDER 5781 RE-ROUTE PROJECT

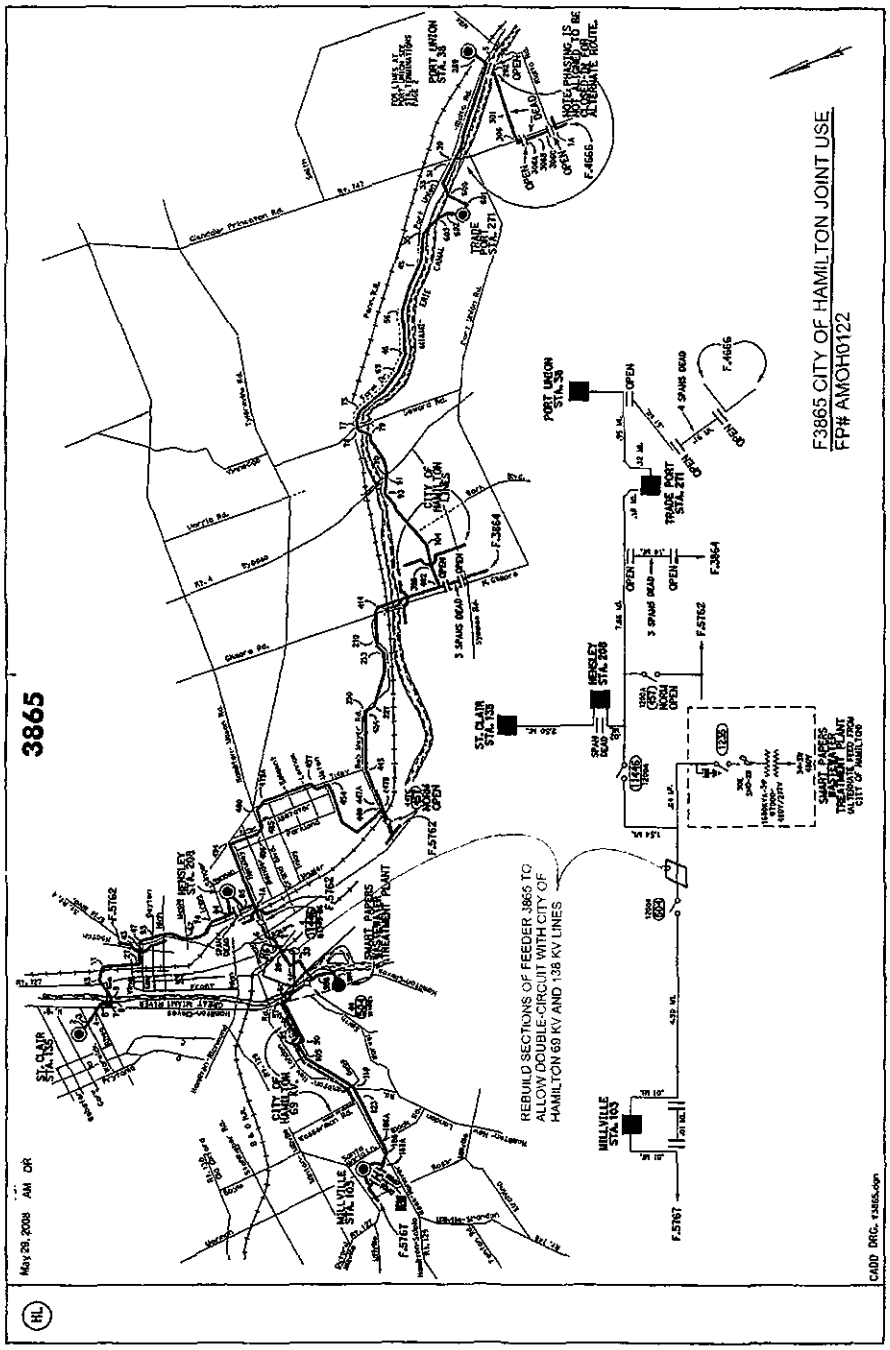


Issued by: Ronald C. Snead
Vice President – Asset Management
Issued on: November 23, 2009

Effective Date: November 23, 2009

Duke Energy Ohio, Inc.
Electric Rate Schedule FERC No. 61

EXHIBIT B
FEEDER 3865 REBUILD PROJECT

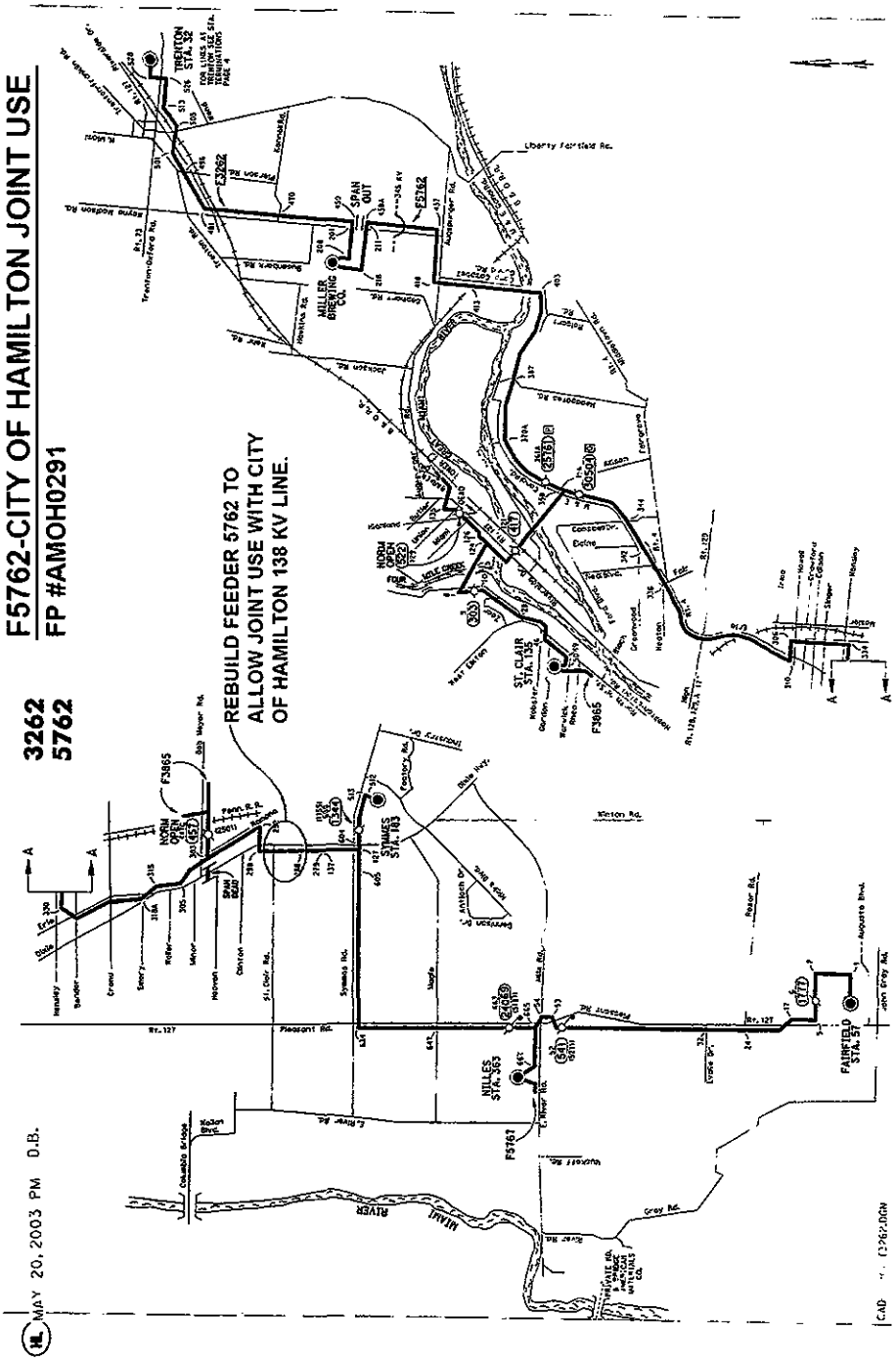


Issued by: Ronald C. Snead
Vice President – Asset Management
Issued on: November 23, 2009

Effective Date: November 23, 2009

Duke Energy Ohio, Inc.
Electric Rate Schedule FERC No. 61

EXHIBIT C
FEEDER 5762 REBUILD PROJECT

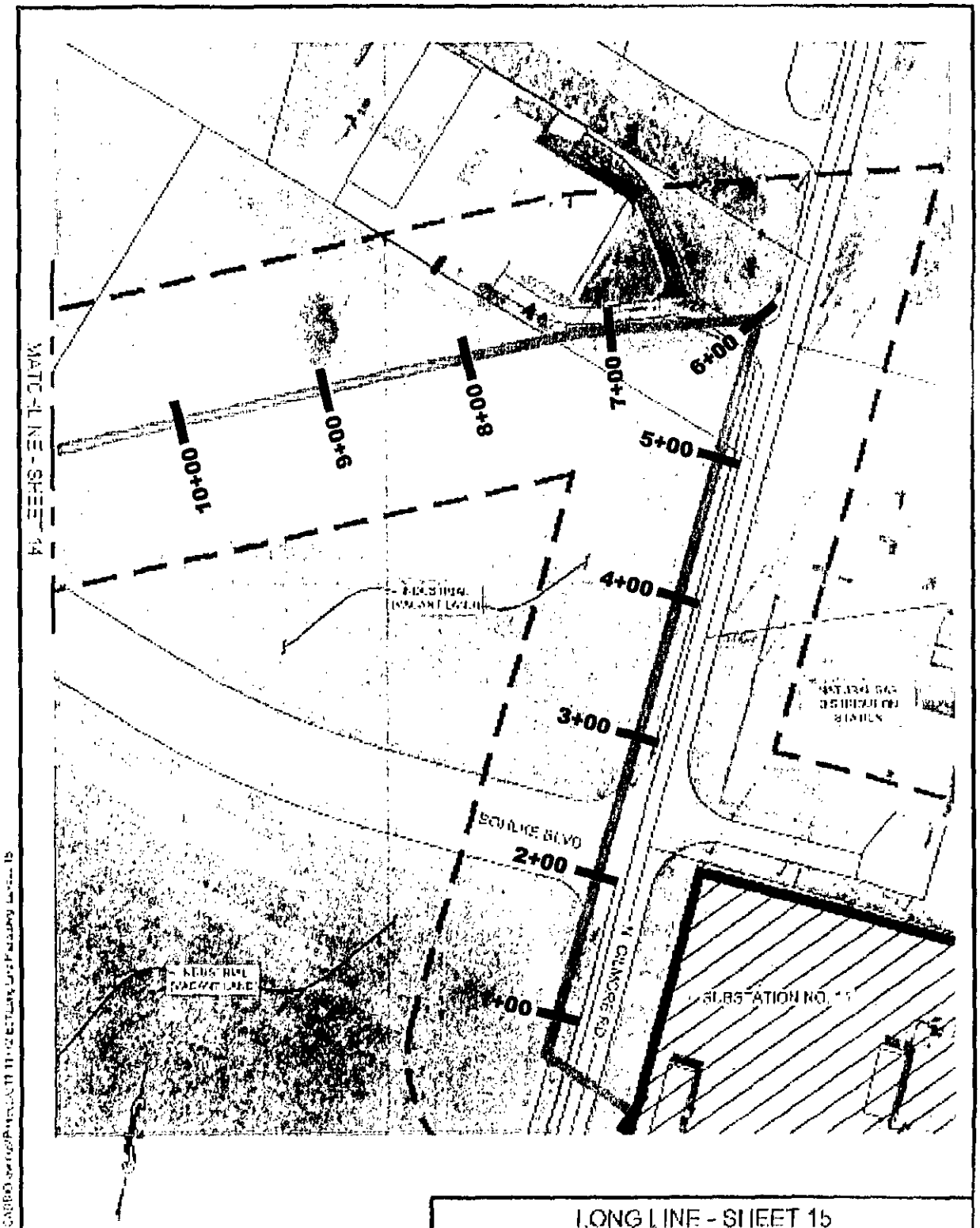


Issued by: Ronald C. Snead
Vice President – Asset Management
Issued on: November 23, 2009

Effective Date: November 23, 2009

Appendix B

Transmission Line Route Maps with Stationing

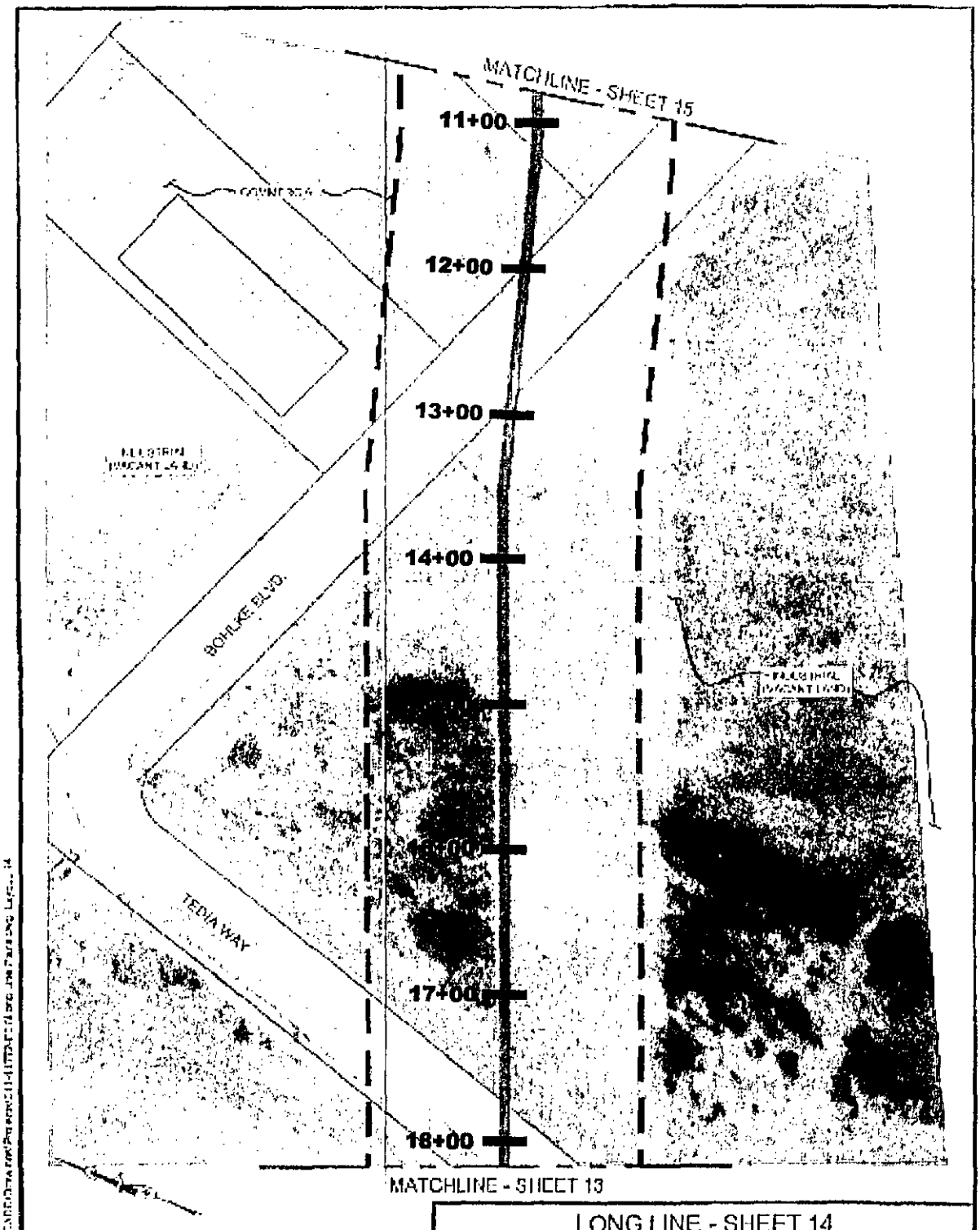


LEGEND

PROPOSED ROUTE

100 RADIUS

LONG LINE - SHEET 15		
138 KV LONG LINE HAMILTON, BUTLER CO , OHIO		BBCM
Project: 01*-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-13	Approved By: MFS	
Last Updated: 1-8-2013	Scale: 1" = 100'	1.1



LEGEND

PROPOSED ROUTE

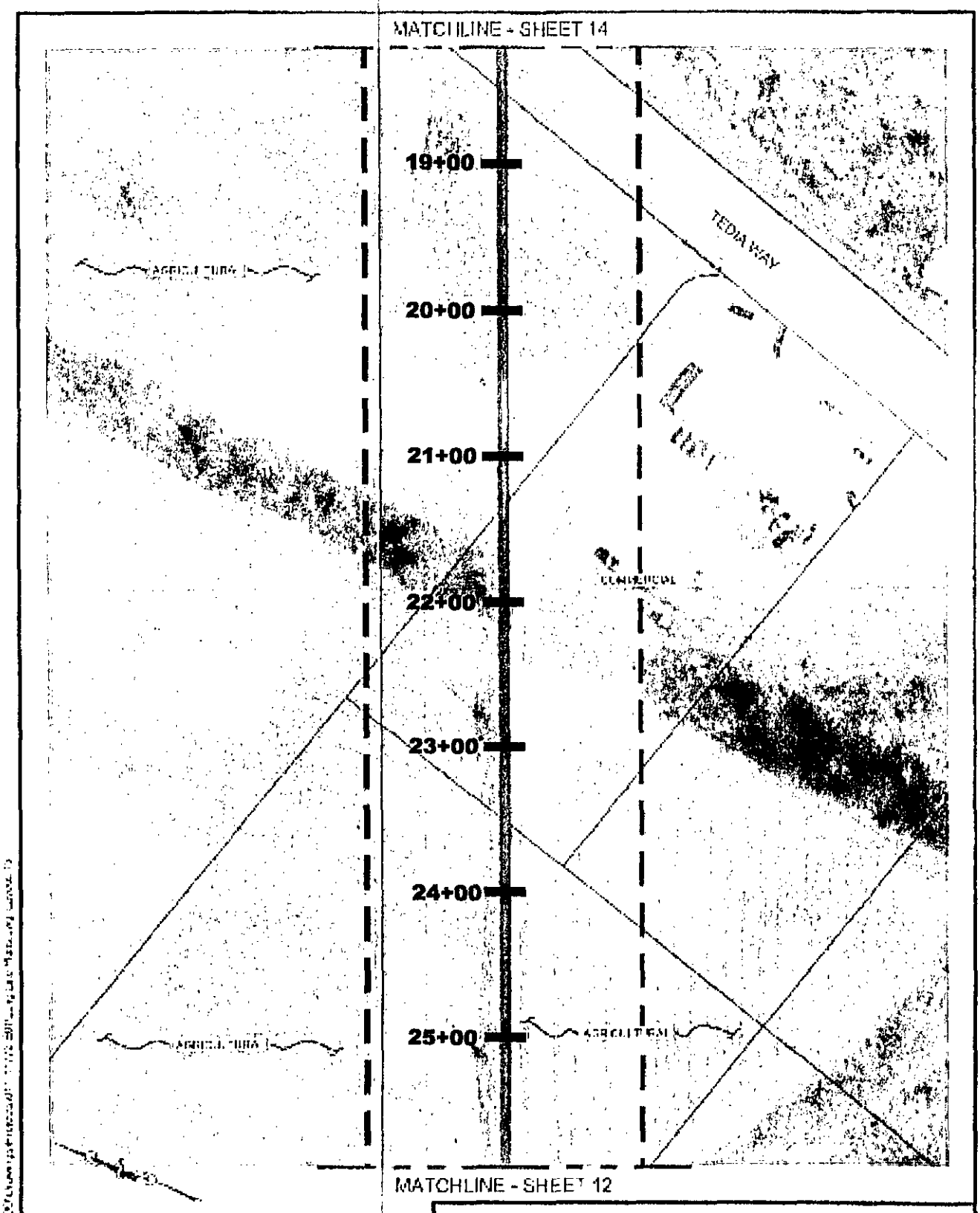
ROW RADIUS

LONG LINE - SHEET 14

138 kV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWD
Drafting Date: 1-6-10	Approved By: MES
Last Updated: 1-6-2010	Scale: 1" = 100' 1.1

BBCM



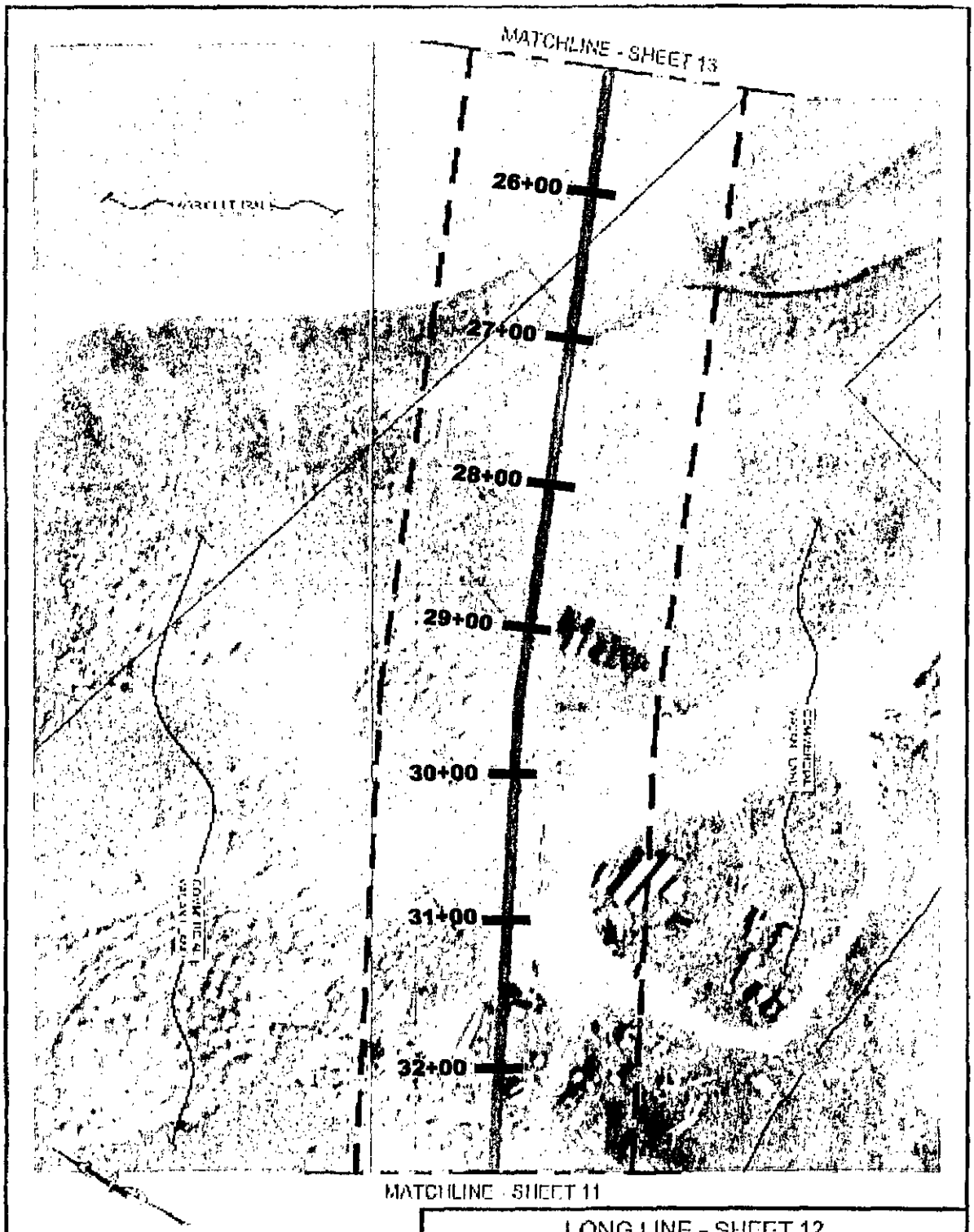
LONG LINE - SHEET 13

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 611-11772 E01	Drawn By: NWD
Drawing Date: 1-8-10	Approved By: MES
Last Updated: 1-6-2010	Scale: 1" = 100'

1.1

BBCM



LEGEND

PROPOSED ROUTE

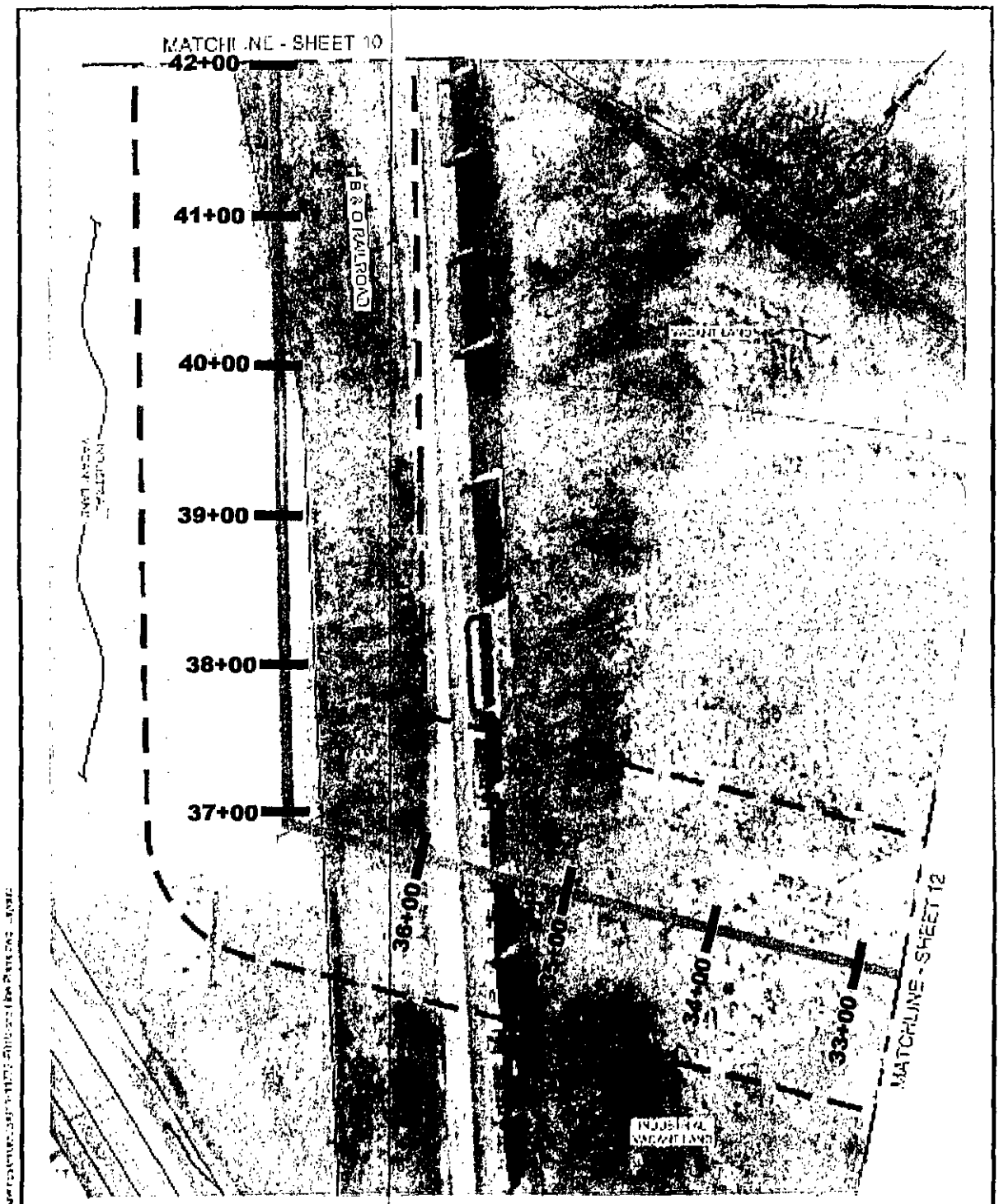
100' RADIUS

LONG LINE - SHEET 12

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: B11-11772 L01	Drawn By: EDV
Drawing Date: 1-8-10	Approved By: MES
Last Updated: 1-8-2010	Scale: 1" = 100' 11

BBCM

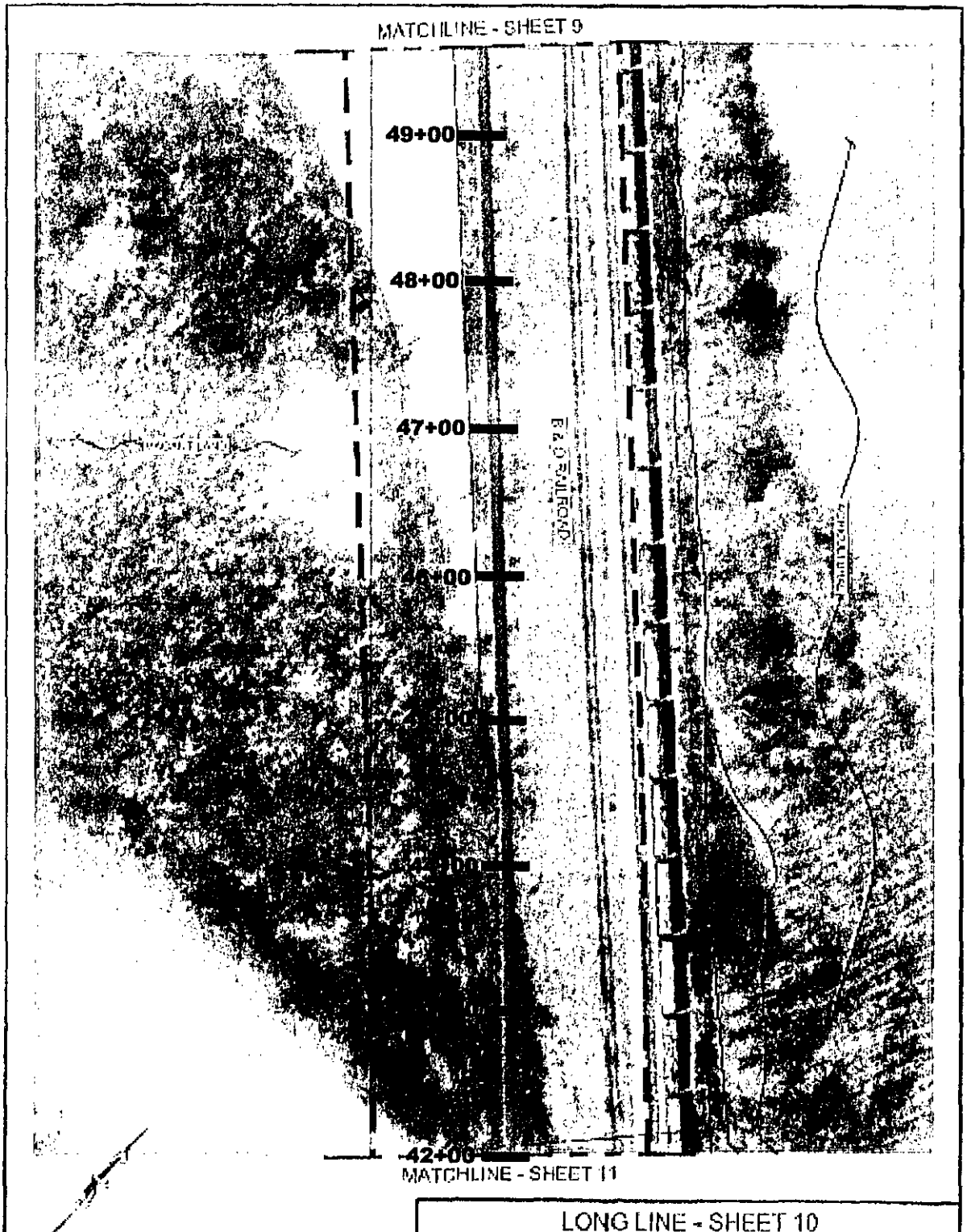


LEGEND

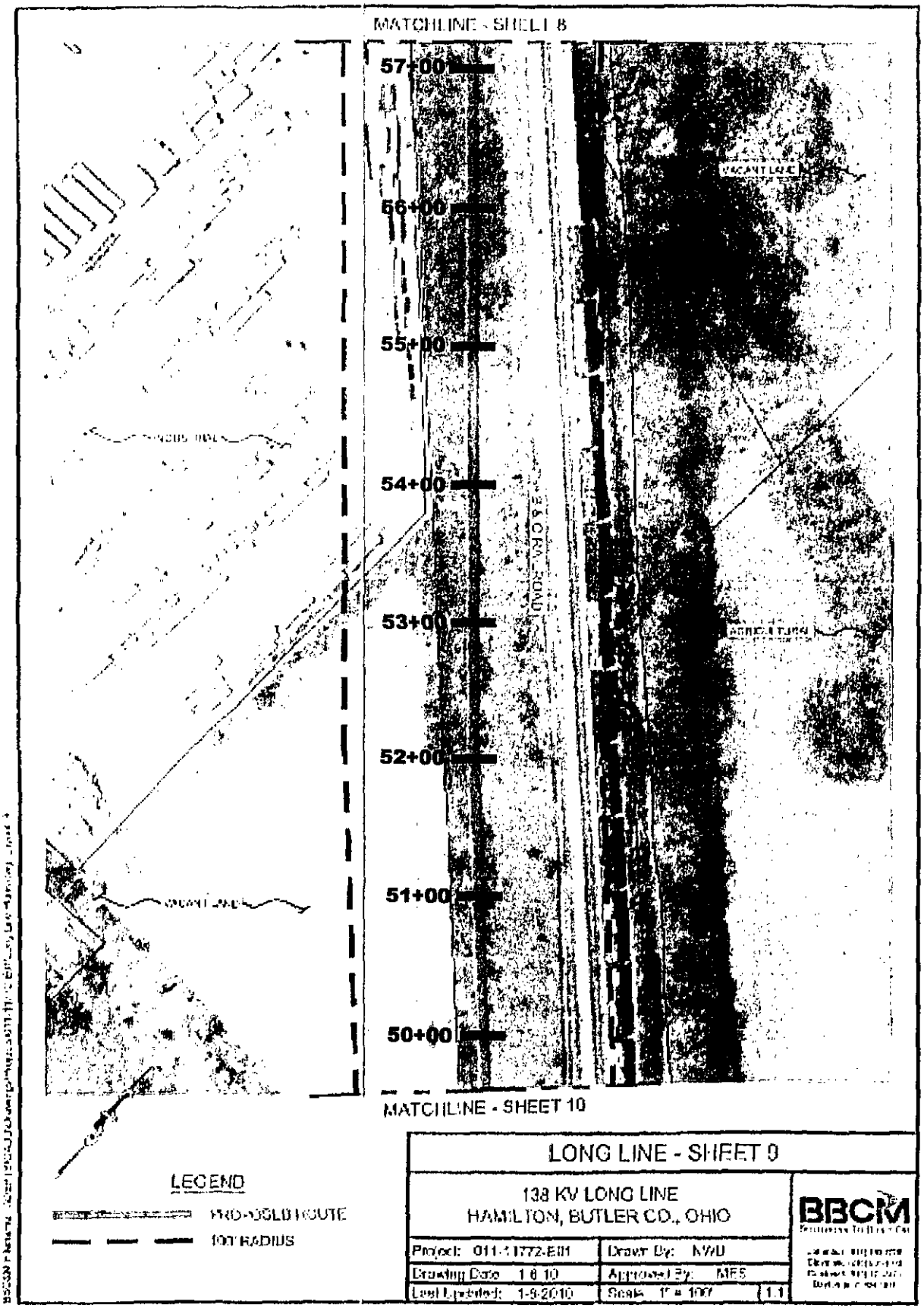
PROPOSED ROUTE

100' RADIUS

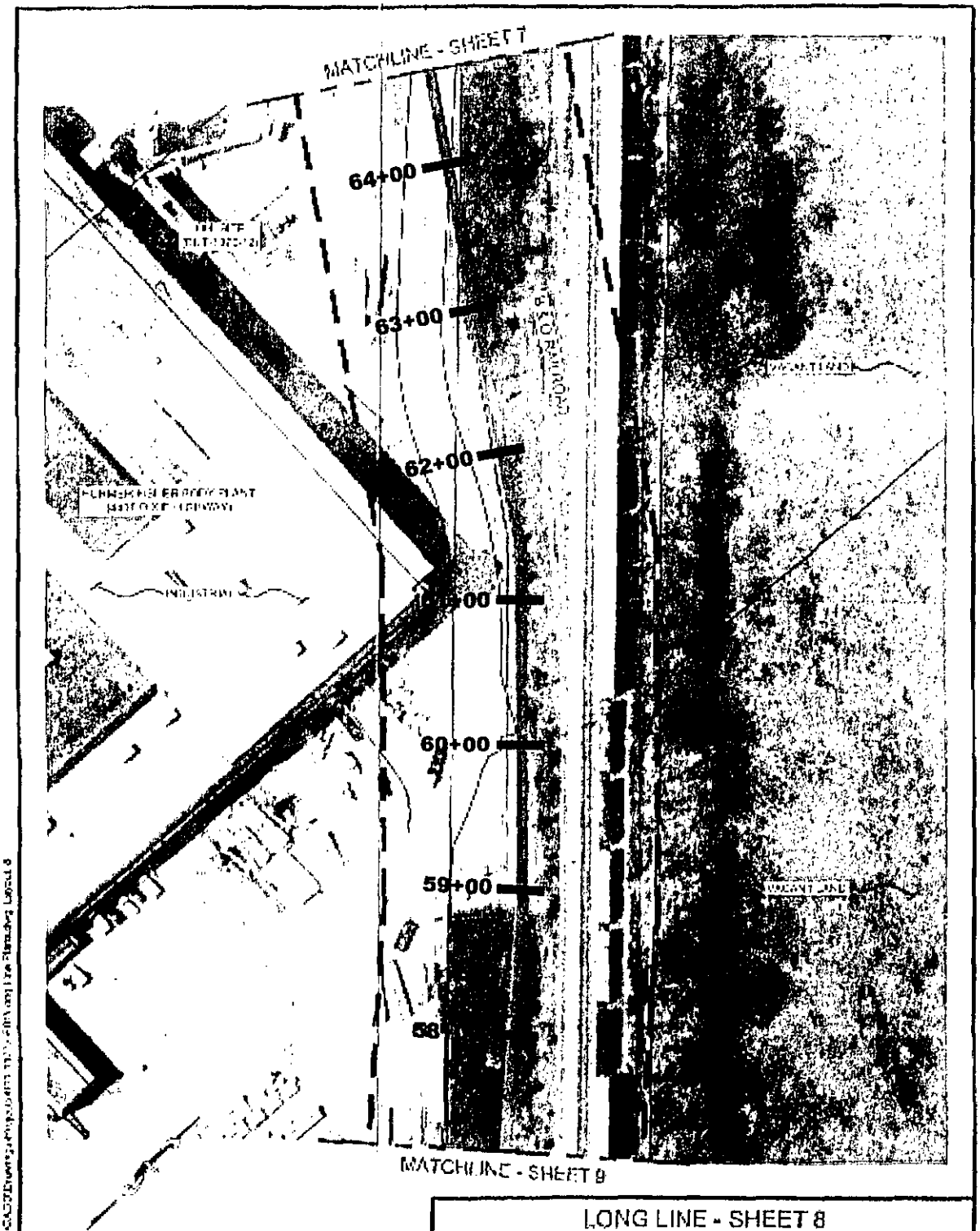
LONG LINE - SHEET 11		
138 KV LONG LINE HAMILTON, BUTLER CO., OHIO		BBCM
Project: 01*-11772-EC1	Drawn By: MWB	
Drawing Date: 1-5-10	Approved By: MFS	
Last Updated: 1-8-2010	Scale: 1" = 100'	1:1



LONG LINE - SHEET 10		
138 KV LONG LINE HAMILTON, BUTLER CO., OHIO		BBCM
Project: 31[illegible]11/2-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1.1



LONG LINE - SHEET 9		
138 KV LONG LINE HAMILTON, BUTLER CO., OHIO		BBCM
Project: 011-1772-E01	Drawn By: MVD	
Drawing Date: 1-8-10	Approved By: MES	
Last Updated: 1-8-2010	Scale: 1" = 100'	1.1

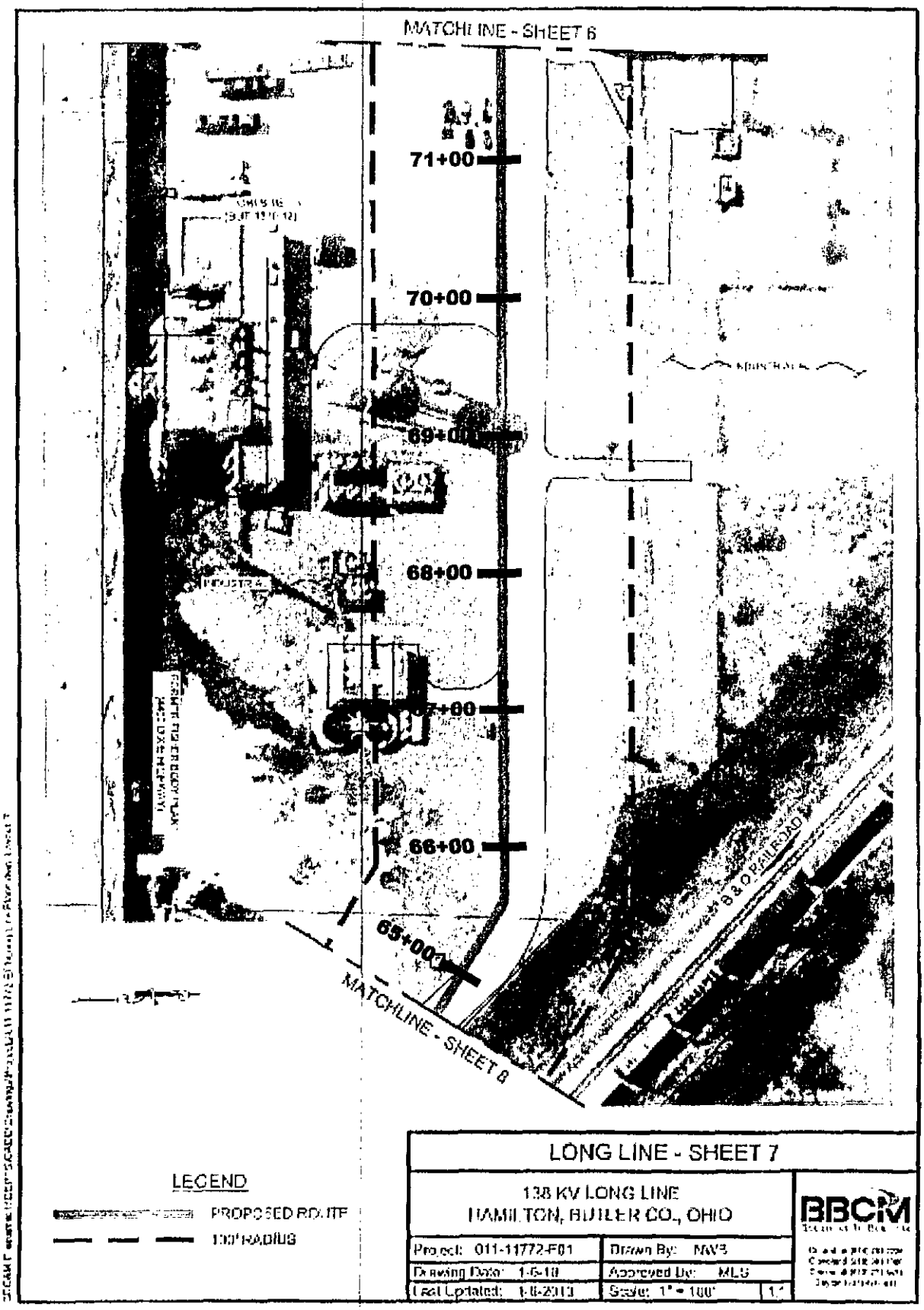


LONG LINE - SHEET 8

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

BBCM

Project: 011-11772-E01	Drawn By: NWB
Drawing Date: 1-25-10	Approved By: MEG
Last Updated: 1-6-2010	Scale: 1" = 100' [11]



LEGEND

PROPOSED ROUTE

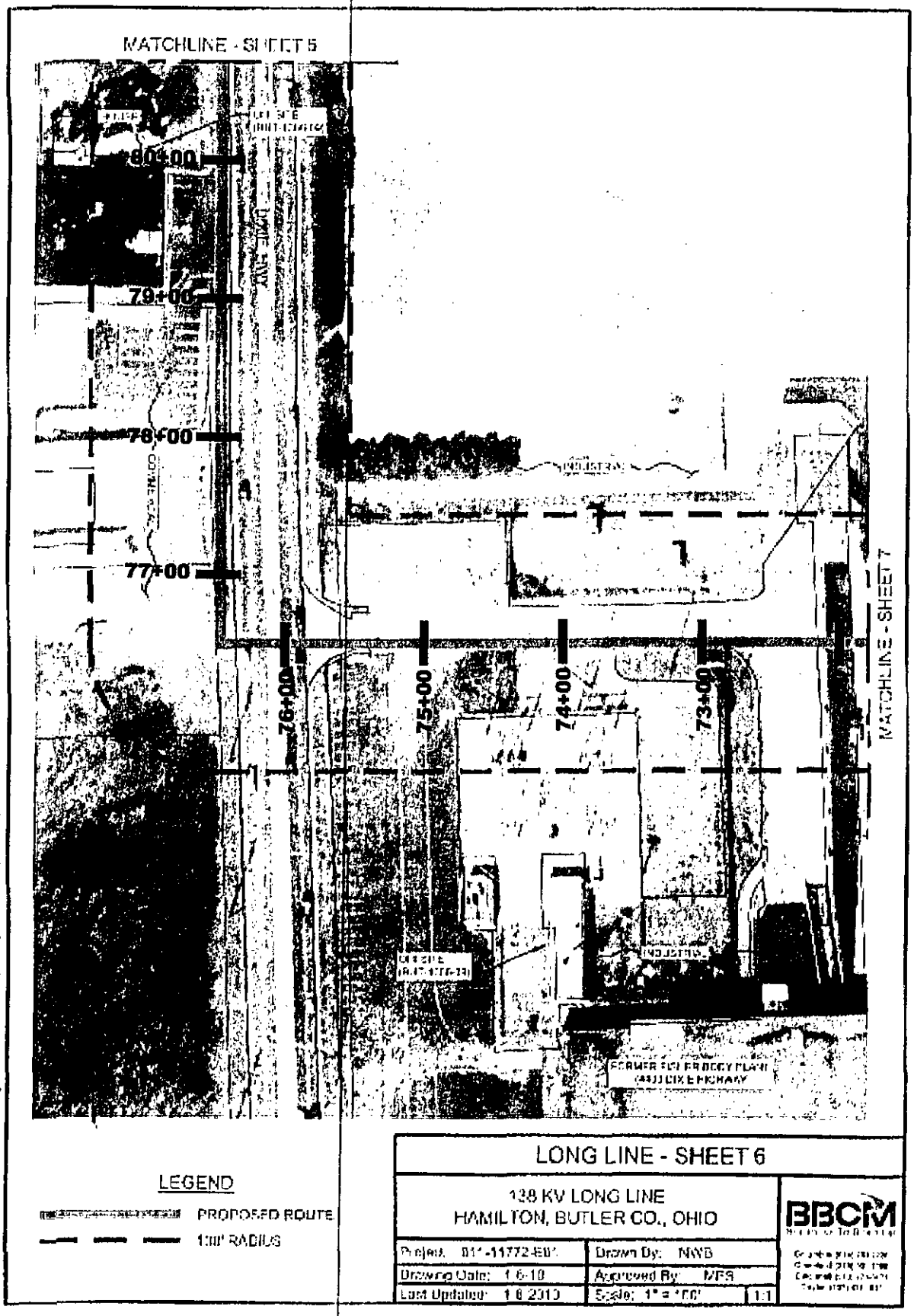
100' RADIUS

LONG LINE - SHEET 7

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-F01	Drawn By: MWS
Drawing Date: 1-6-10	Approved By: MLS
Last Updated: 1-8-2010	Scale: 1" = 100'

BBCM

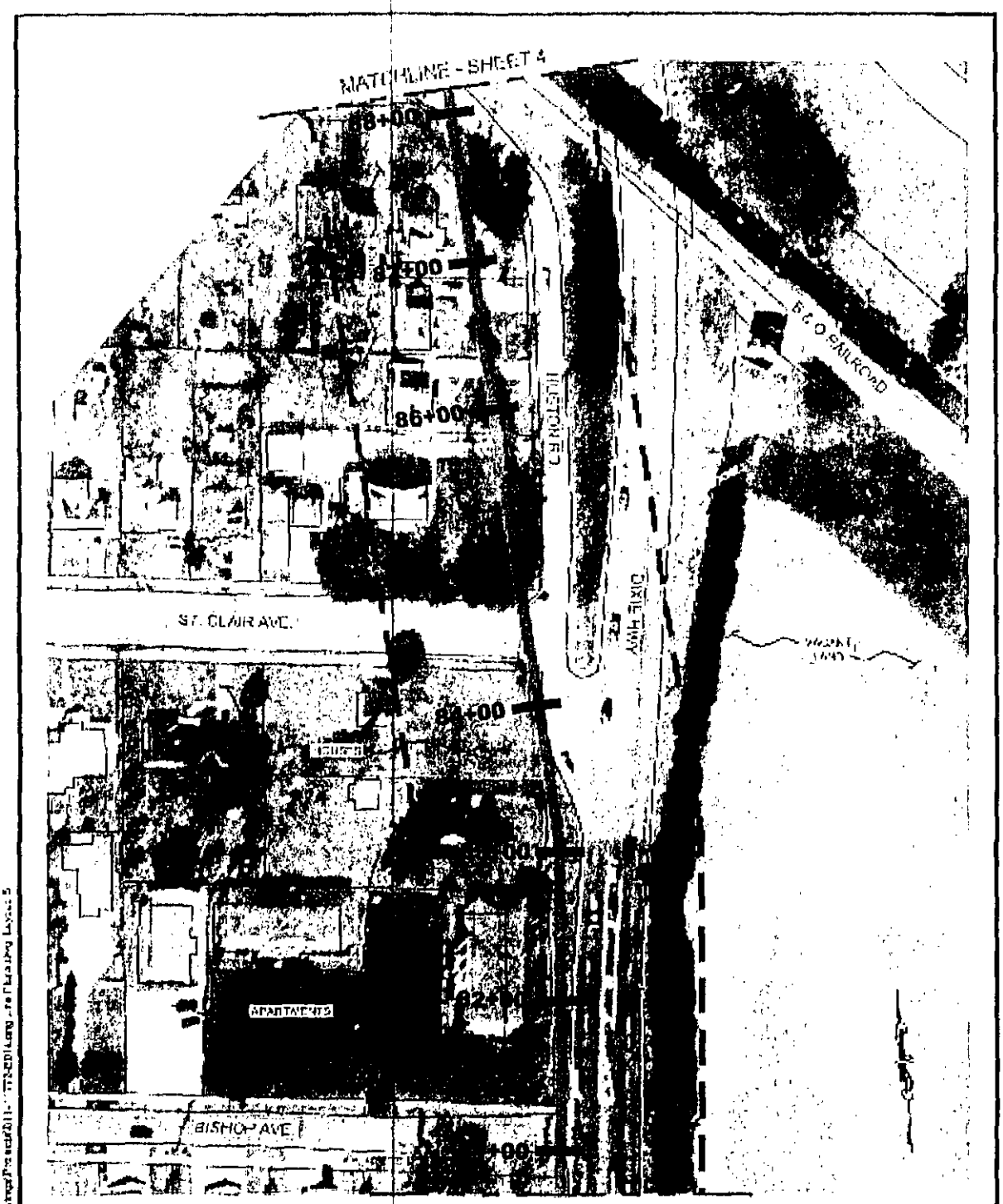


LONG LINE - SHEET 6

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

BBCM

Project: 01-11772-E01	Drawn By: NWB
Drawing Date: 1-6-10	Approved By: MRS
Last Updated: 1-8-2010	Scale: 1" = 100' 1:1



LEGEND

PROPOSED ROUTE

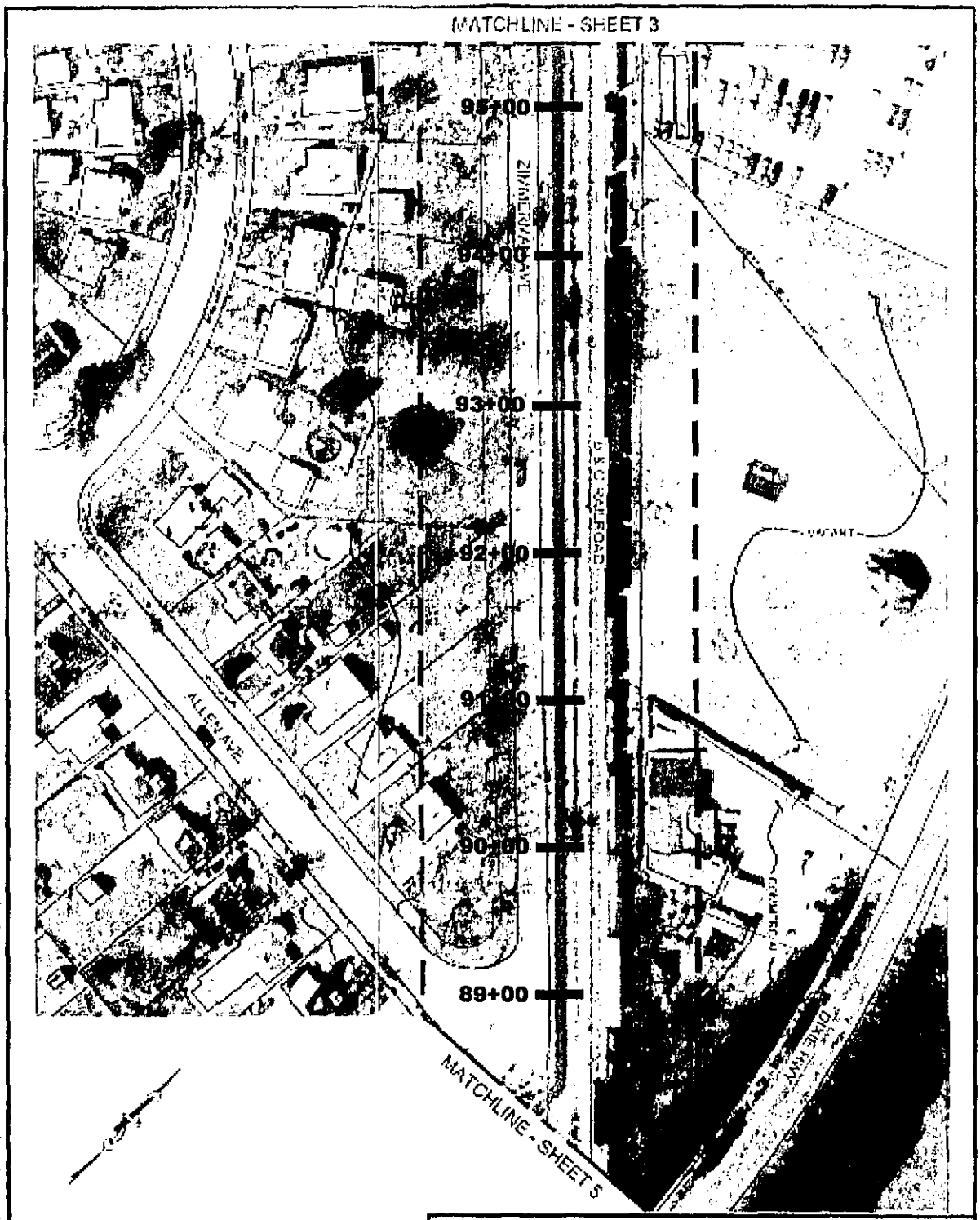
100' RADIUS

LONG LINE - SHEET 5

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-F01	Drawn By: MVD
Drawing Date: 1-8-10	Approved By: MES
Last Updated: 1-8-2010	Scale: 1" = 100' 1:1

BBCM



LEGEND

PROPOSED ROUTE

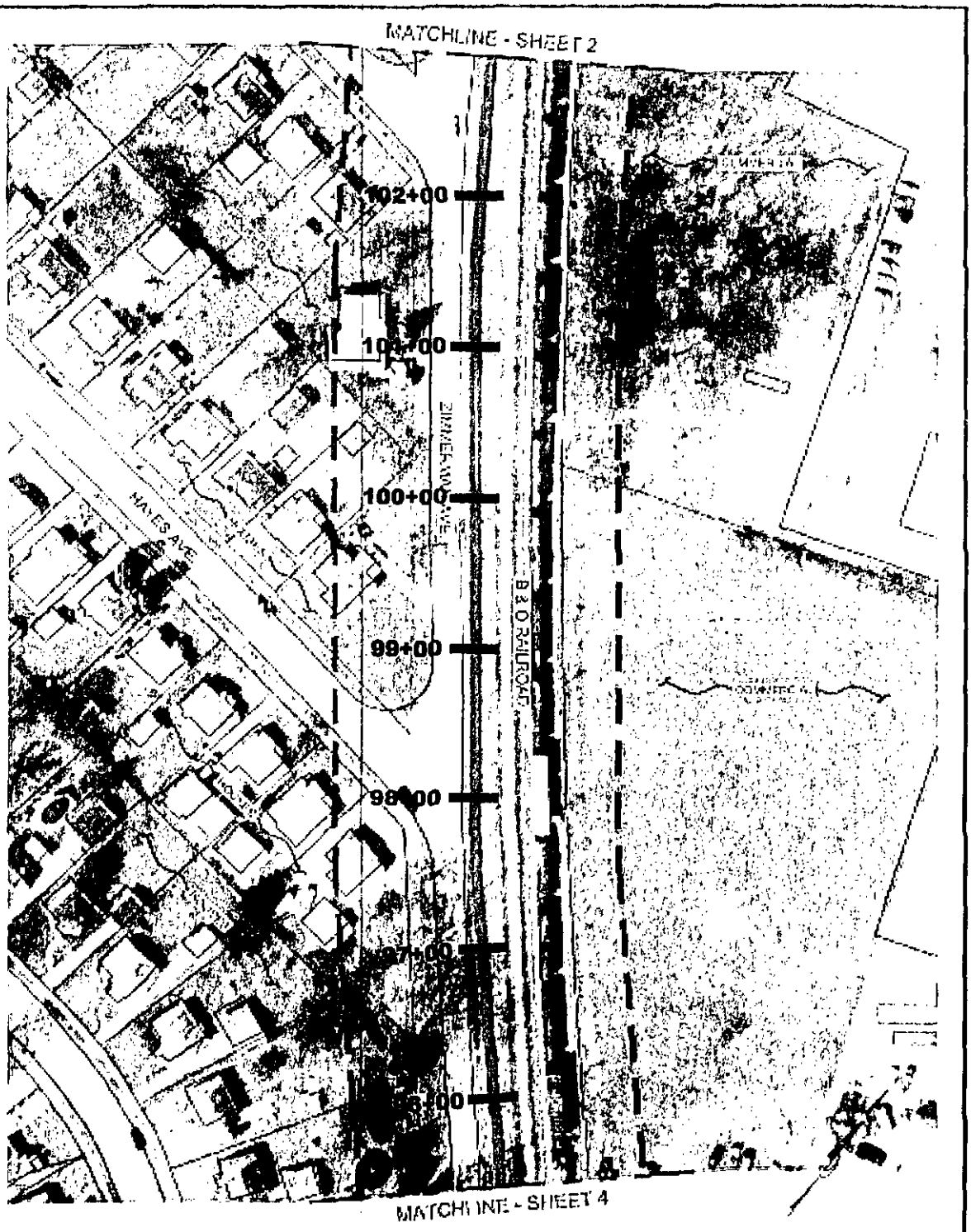
100' RADIUS

LONG LINE - SHEET 4

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

BBCM

Project: 011-11772-F01	Drawn By: NWB
Drawing Date: 1-6-10	Approved By: MES
Last Updated: 1-5-2010	Scale: 1" = 100' 1:1

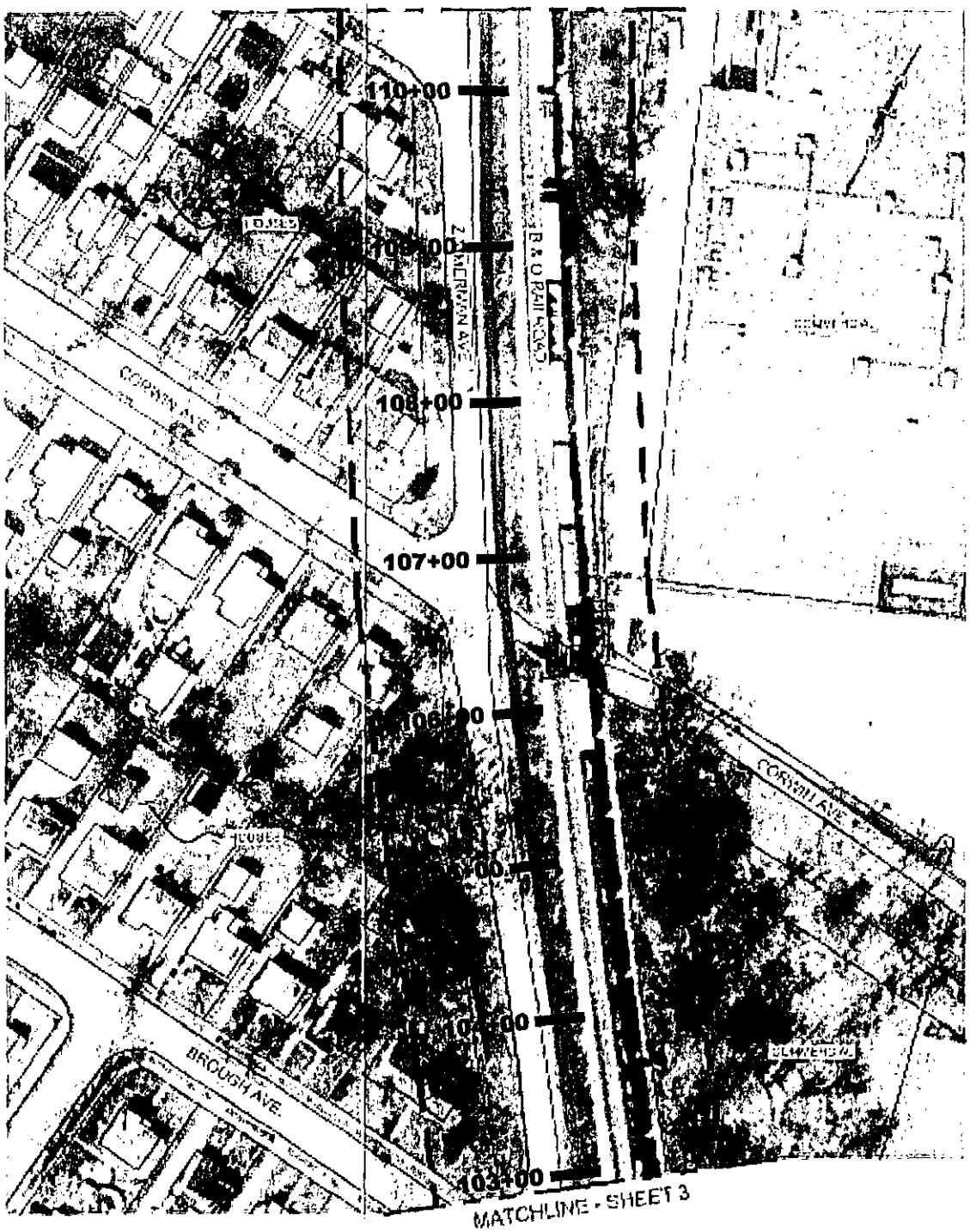


LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 3		
138 KV LONG LINE HAMILTON, BUTLER CO., OHIO		BBCM
Project: C11-11772-E01	Drawn By: MWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1



LEGEND

PROPOSED ROUTE

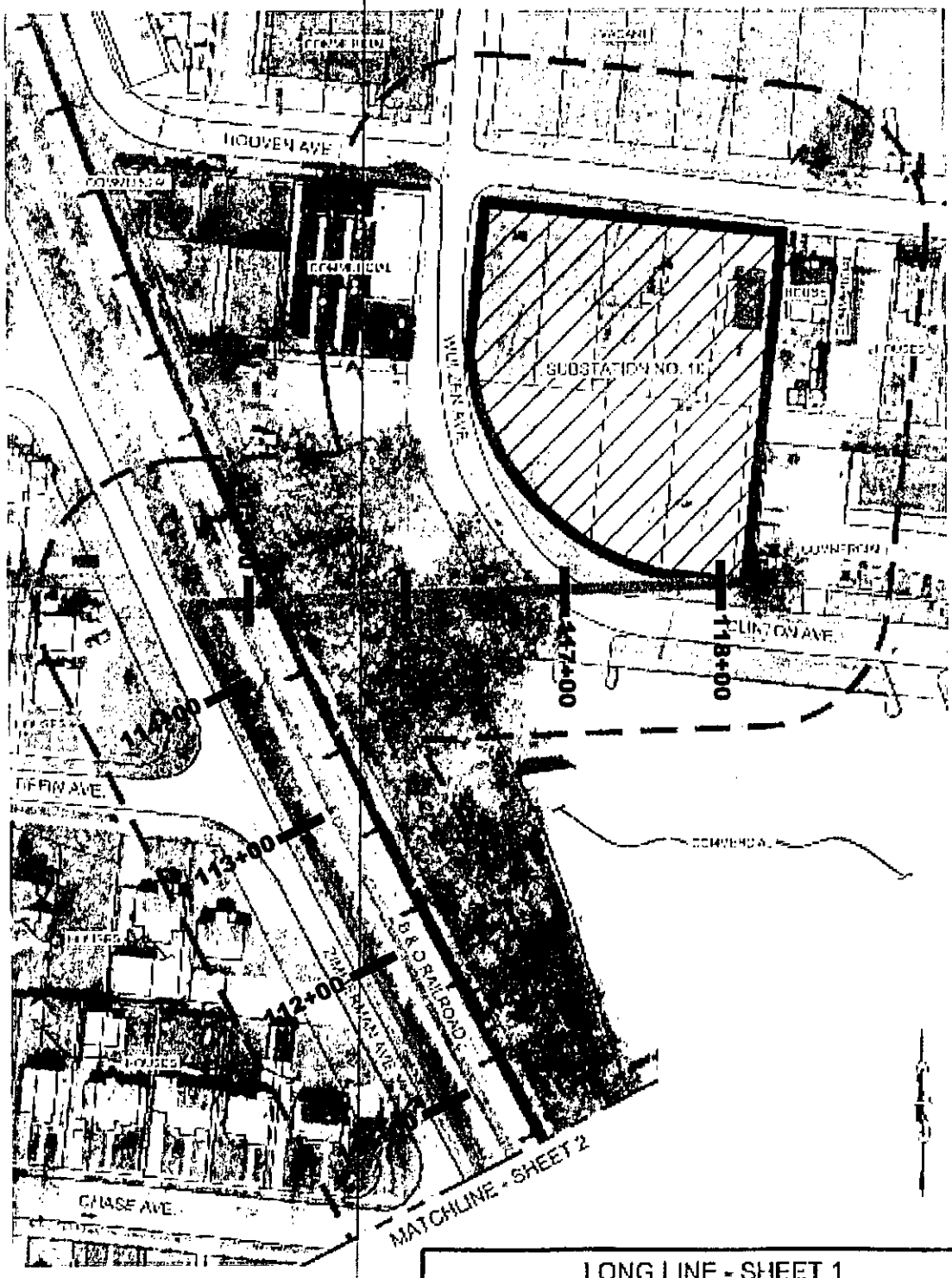
100' RADIUS

LONG LINE - SHEET 2

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

BBCM

Project: 011-1272-E01	Drawn By: MAB	
Drawing Date: 1-6-10	Approved By: MFS	
Last Updated: 1-8-2010	Scale: 1" = 100	1:1



LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 1

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

BBCM

Project: 0[illegible]-11772 EC1	Drawn By: NWB
Drawing Date: 1-6-10	Approved By: MFS
Last Updated: 1-6-2010	Scale: 1" = 100' 1.1

Appendix C

Hamilton Electric System Strategic Plan

Municipal Electric System

Plan For The Future

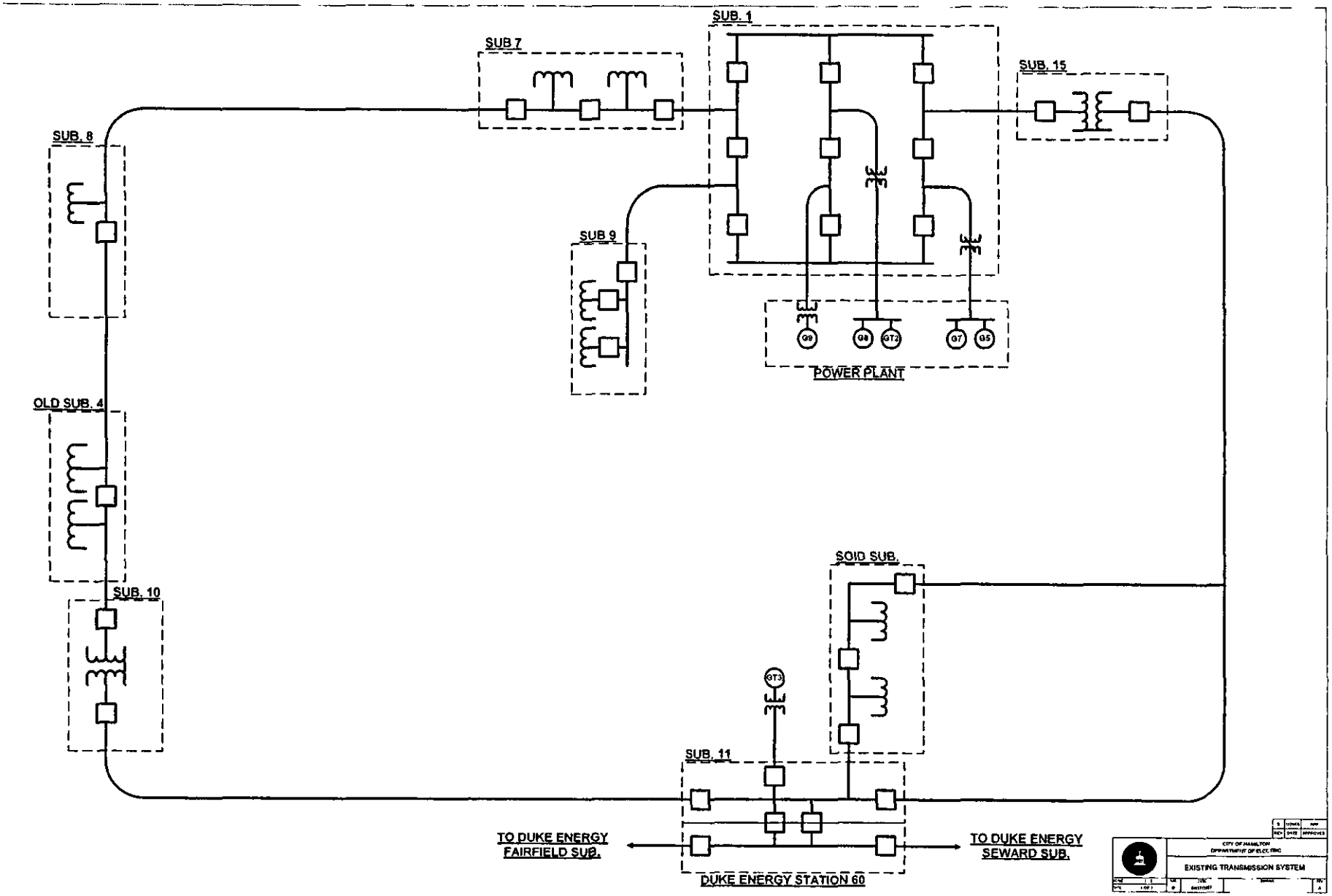
City of Hamilton

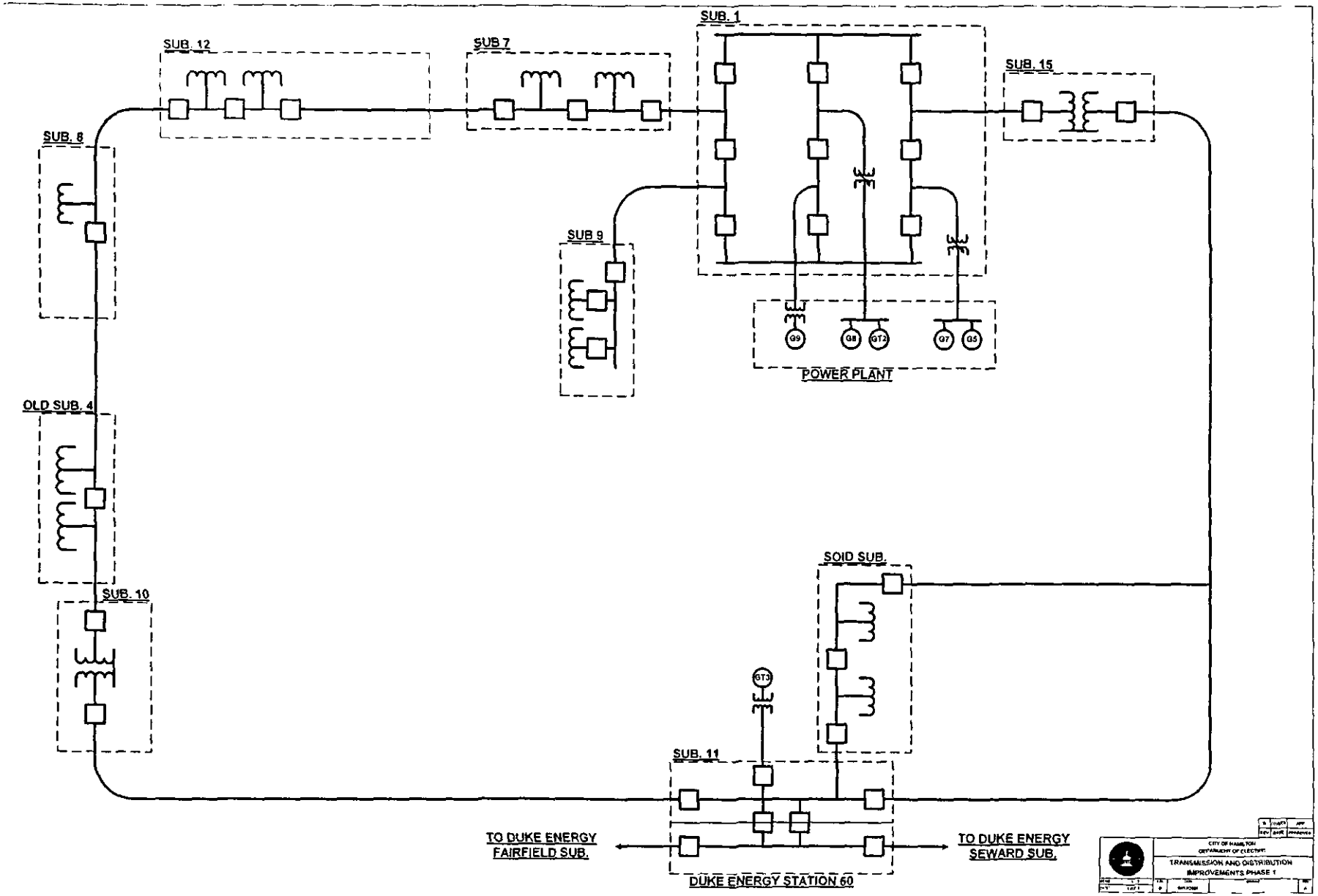
System Overview

- 165 MW peak load (+4% over previous peak)
- 630,000 MWH 2007 in-system energy sales (+8%)
  - 271,000 MWH Residential (+6%)
  - 201,000 MWH Commercial (+6%)
  - 158,000 MWH Industrial/Large User (+13%)
- 29,550 meters
  - 26,500 Residential
  - 2,975 Commercial
  - 50 Industrial/Large User

System Overview

- 22 Miles of 138 KV & 69 KV Transmission
  - Closed-Loop Transmission System
    - Most substations are double-end fed for reliability
    - Two 83 MVA auto-transformers provide voltage stepdown
  - Connected to Eastern Grid at 138 KV via Duke Energy
- 13 Substations throughout the City
  - 3 Transmission only
  - 5 Transmission/Distribution
  - 5 Distribution only
- Distribution at 13.8 KV & 4.16 KV


SUB. 1
SUB 7
SUB. 15
SUB. 8
SUB 9
G9
G8
GT2
G7
G5
POWER PLANT
OLD SUB. 4
SUB. 10
SOID SUB.
GT3
SUB. 11
TO DUKE ENERGY
FAIRFIELD SUB.
TO DUKE ENERGY
SEWARD SUB.
DUKE ENERGY STATION 60
CITY OF HAMILTON
DEPARTMENT OF ELECTRIC
EXISTING TRANSMISSION SYSTEM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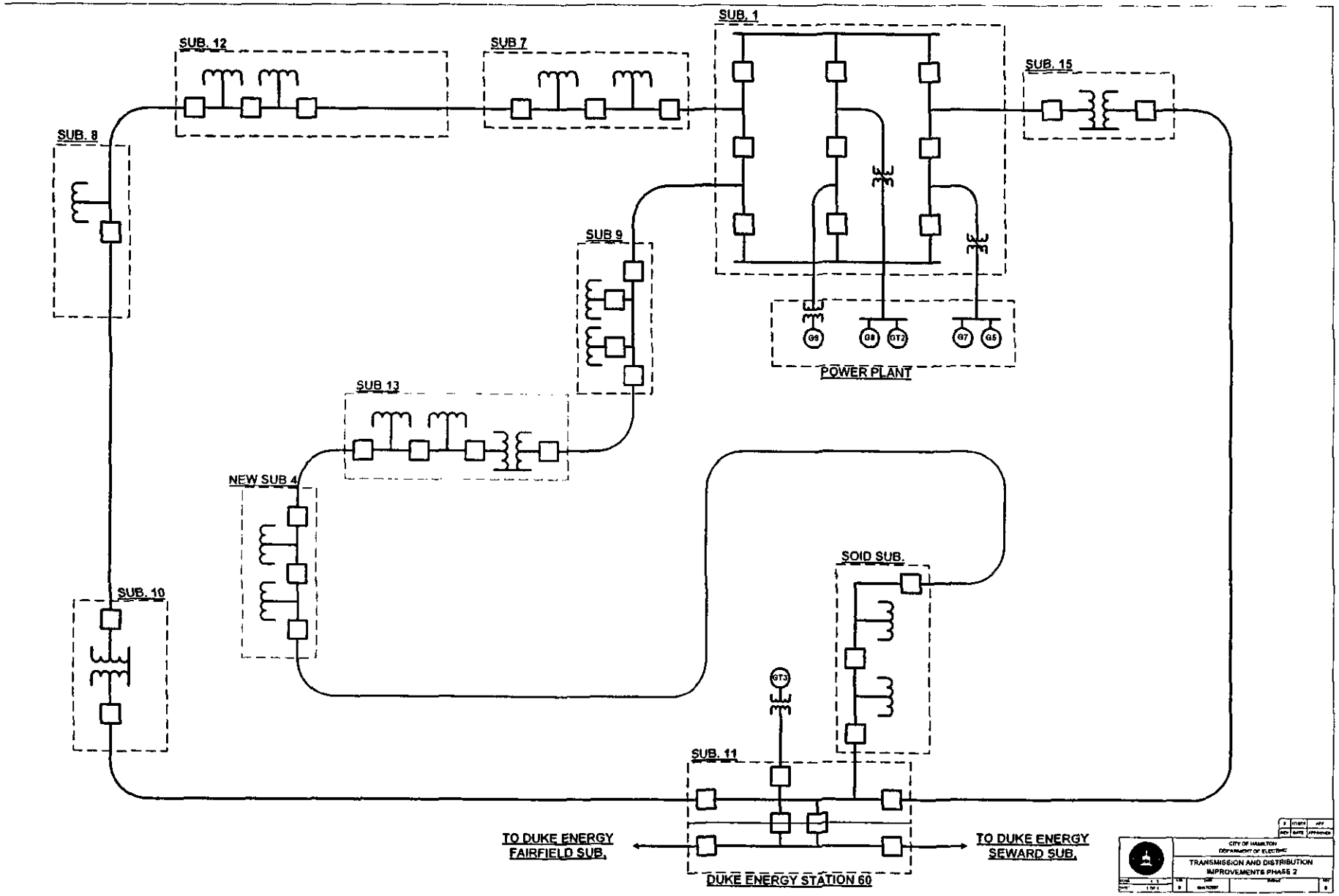
SUB. 12
SUB 7
SUB. 15
SUB. 8
SUB 9
33
33
33
G9
G8
GT2
G7
G5
POWER PLANT
OLD SUB. 4
SUB. 10
SOID SUB.
GT3
SUB. 11
TO DUKE ENERGY
FAIRFIELD SUB.
TO DUKE ENERGY
SEWARD SUB.
DUKE ENERGY STATION 60
CITY OF HAMILTON
DEPARTMENT OF ELECTRIC
TRANSMISSION AND DISTRIBUTION
IMPROVEMENTS PHASE 1


SUB. 1
SUB. 12
SUB 7
SUB. 15
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GT2
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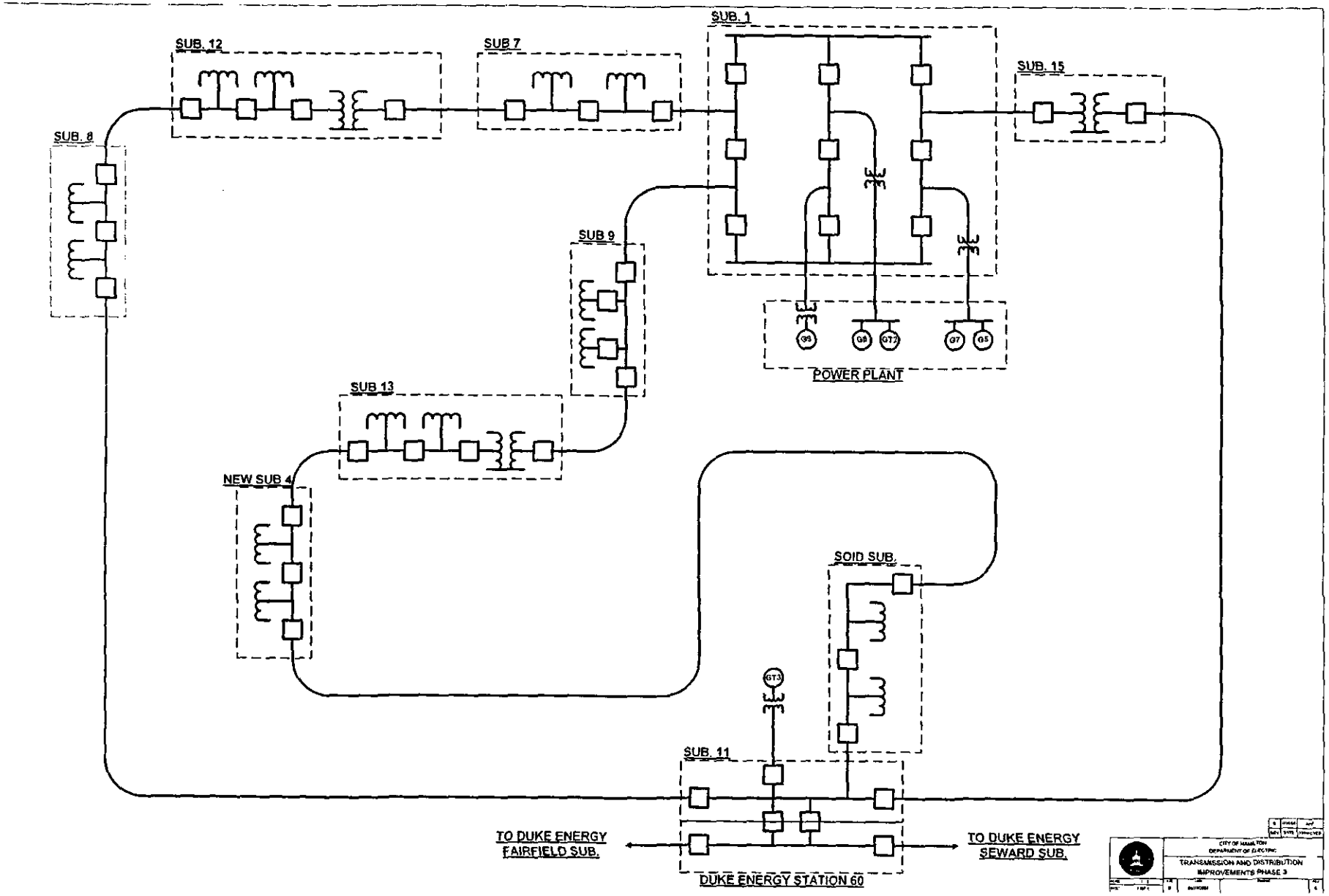
G5
POWER PLANT
SUB 13
NEW SUB 4
SOID SUB.
SUB. 10
GT3
SUB. 11
TO DUKE ENERGY
FAIRFIELD SUB.
TO DUKE ENERGY
SEWARD SUB.
DUKE ENERGY STATION 60
CITY OF HAMILTON
DEPARTMENT OF ELECTRIC
TRANSMISSION AND DISTRIBUTION
IMPROVEMENTS PHASE 2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SUB. 12
SUB 7
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SUB. 8
SUB 9
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POWER PLANT
SUB 13
NEW SUB 4
SOID SUB.
GT3
SUB. 11
TO DUKE ENERGY
FAIRFIELD SUB.
TO DUKE ENERGY
SEWARD SUB.
DUKE ENERGY STATION 60
CITY OF HAMILTON
DEPARTMENT OF ELECTRIC
TRANSMISSION AND DISTRIBUTION
IMPROVEMENTS PHASE 3

SCHEDULE

- Substation 12 in service 4th quarter 2009
- Substation 13, Substation 4 and new transmission lines in service 4th quarter 2010

CHALLENGES

- Equipment lead time
  - 42-57 weeks for power transformers
  - 36-40 weeks for switchgear
- Both new 138 KV transmission lines require approval from Ohio Power Siting Board.

BUDGET

Phases 1 & 2 are included in the improvements currently underway:

- Phase 1 - $10,000,000
- Phase 2 - $15,000,000
- Total currently budgeted - $25,000,000

Phase 3 will be evaluated/budgeted beginning in 2012.

Plan Summary

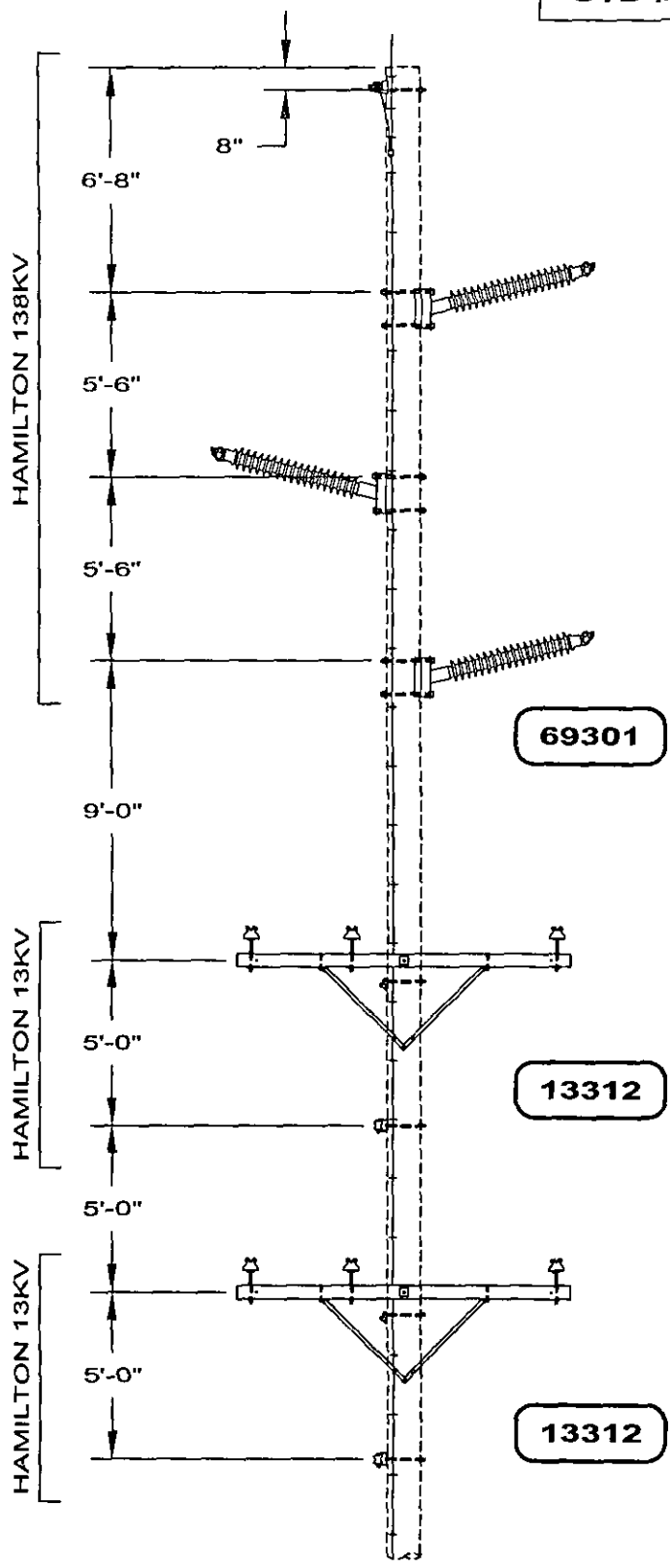
- Reduces 69 KV connected transformers to less than capacity of two autotransformers
  - Sub. 7, Sub. 9 & Sub. 1 (Power Plant) will remain connected at 69 KV due to space limitations
- Provides 3rd transmission link to national grid.
- Provides reserve capacity for future growth.
- Allows for future generation.
- Allows for future connection to PJM.

Questions?

Appendix D

Pole Top Construction Standards

STD #1



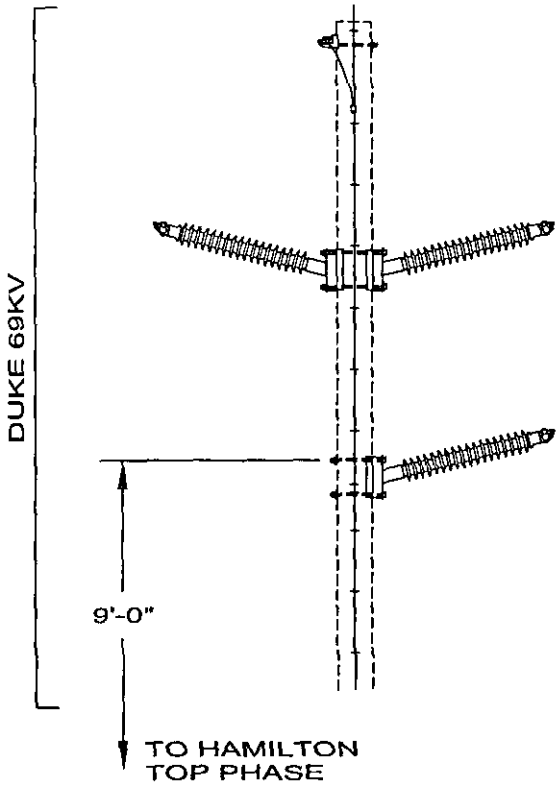
REFERENCE CITY OF HAMILTON
ELECTRICAL STANDARDS

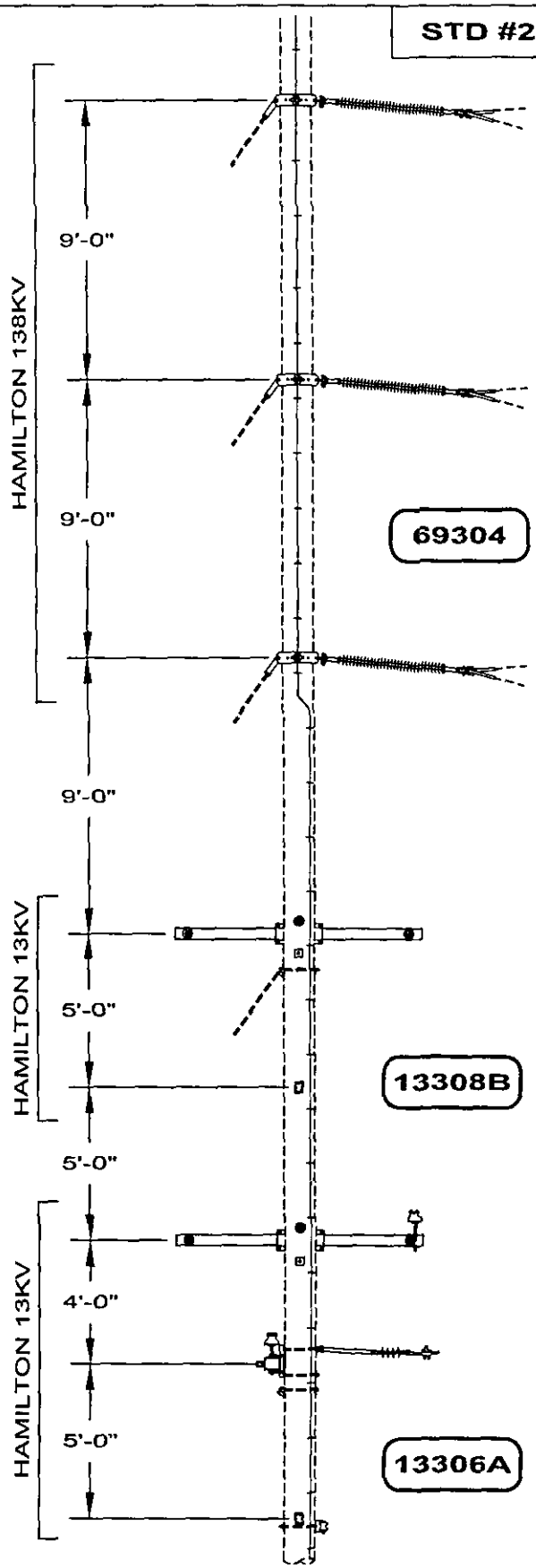
69301

13312

'LONGLINE' TRANSMISSION PROJECT	DATE: 2/10/2010	DRAWN BY: JLM
HAMILTON 138 KV TRANSMISSION 0 - 2 DEGREE ANGLE VERTICAL POLE CONSTRUCTION WITH 13.8KV DISTRIBUTION	REV:	REV BY:

STD #2





REFERENCE CITY OF HAMILTON
ELECTRICAL STANDARDS

- 69304
- 13308B
- 13306A

'LONGLINE' TRANSMISSION PROJECT	DATE: 2/10/2010	DRAWN BY: JLM
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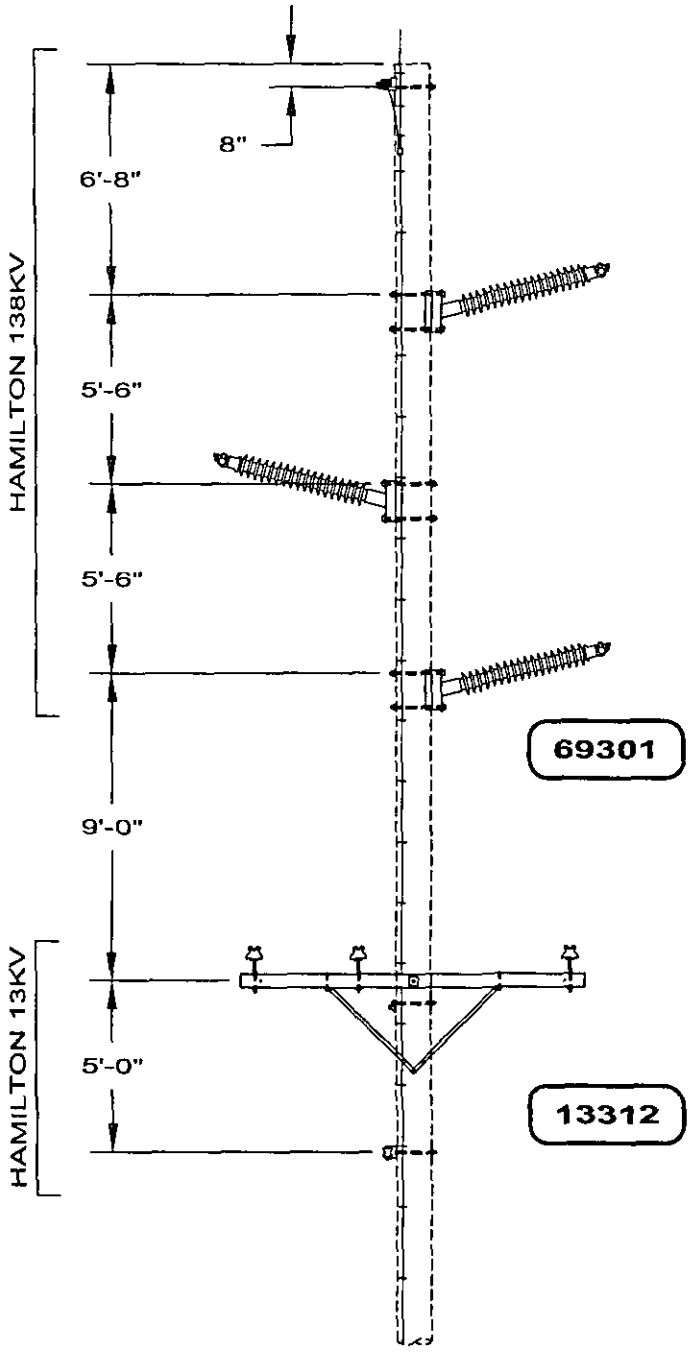
STD #3



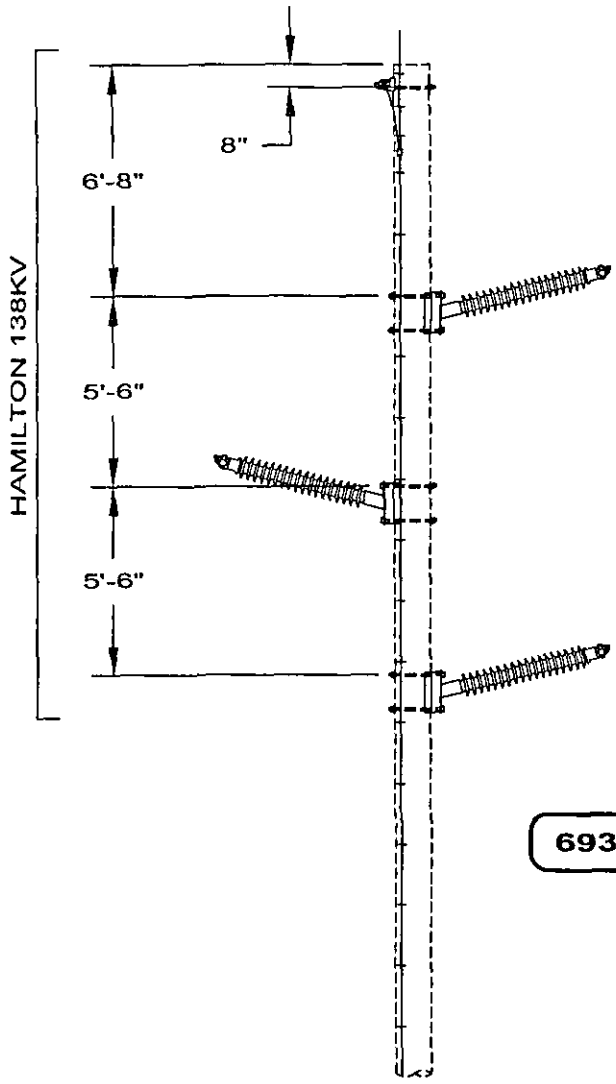
REFERENCE CITY OF HAMILTON
ELECTRICAL STANDARDS

69301

13312

'LONGLINE' TRANSMISSION PROJECT	DATE: 2/10/2010	DRAWN BY: JLM
HAMILTON 138 KV TRANSMISSION 0 - 2 DEGREE ANGLE VERTICAL POLE CONSTRUCTION WITH 13.8KV DISTRIBUTION	REV:	REV BY:

STD #4



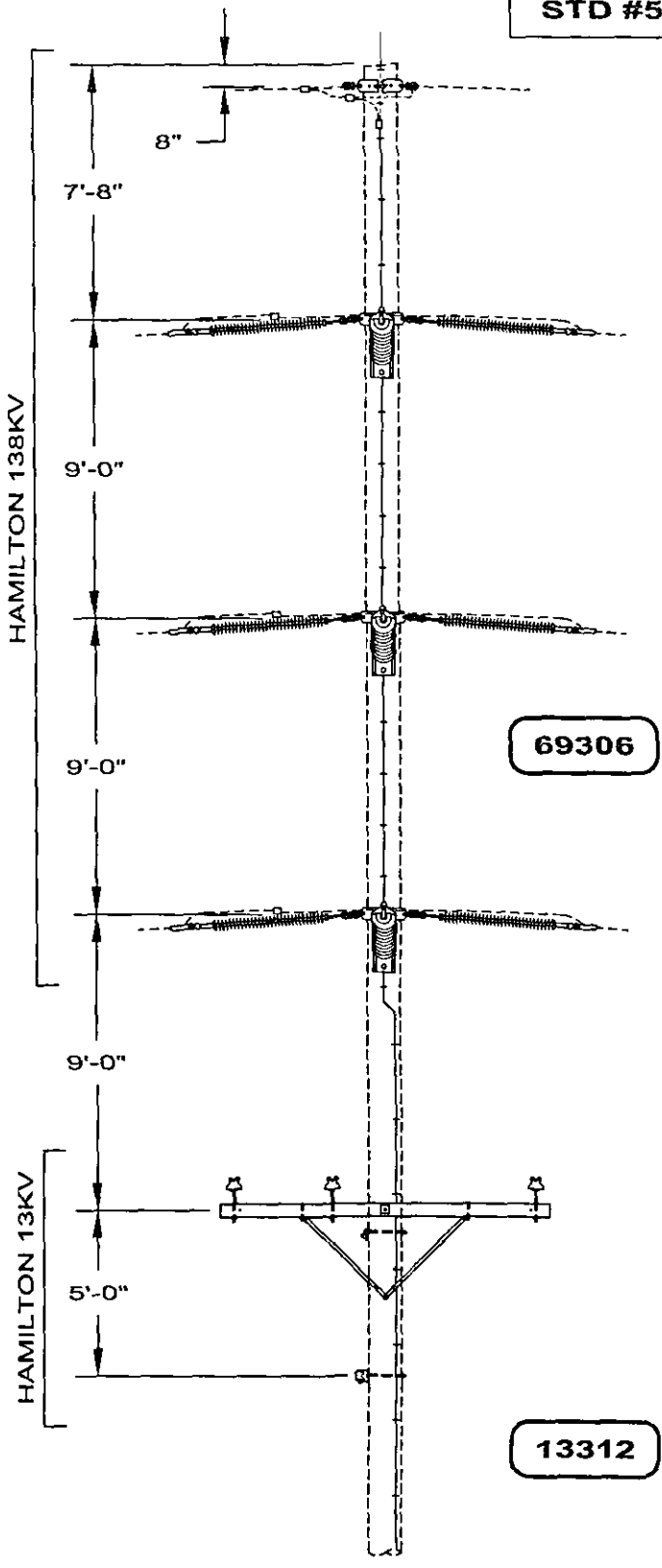
69301

REFERENCE CITY OF HAMILTON
ELECTRICAL STANDARDS

69301

'LONGLINE' TRANSMISSION PROJECT	DATE: 2/10/2010	DRAWN BY: JLM
HAMILTON 138 KV TRANSMISSION 0 - 2 DEGREE ANGLE VERTICAL POLE CONSTRUCTION	REV:	REV BY:

STD #5



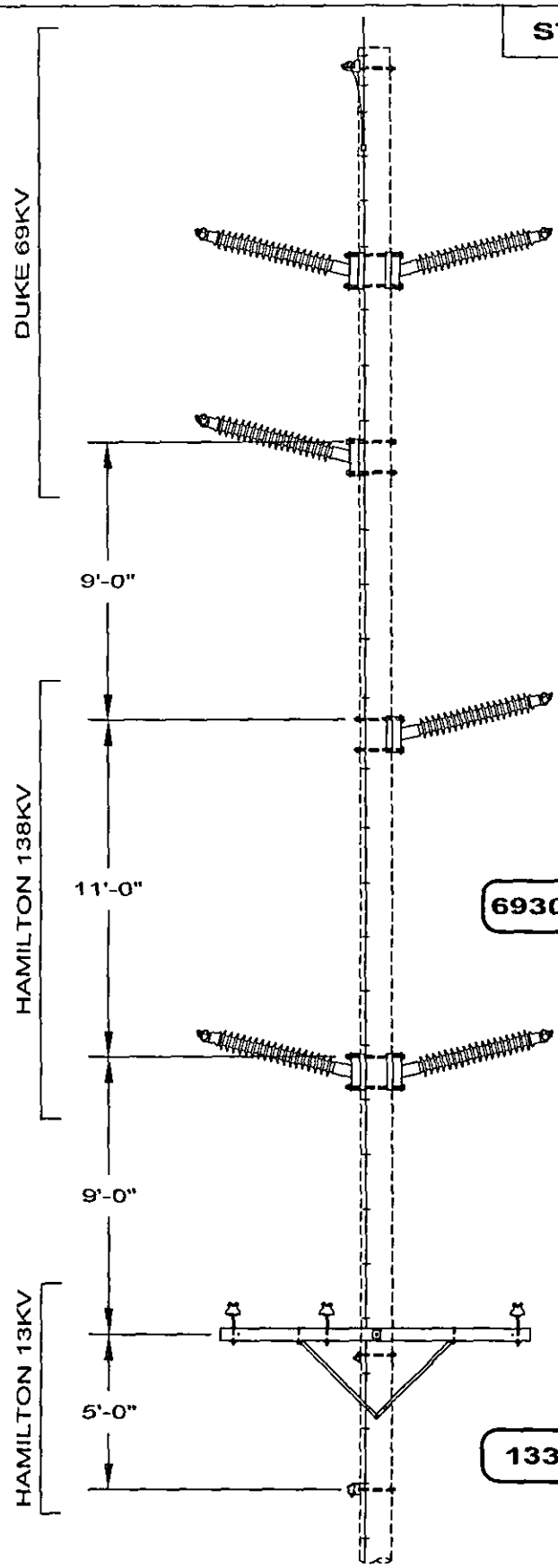
REFERENCE CITY OF HAMILTON
ELECTRICAL STANDARDS

69306

13312

'LONGLINE' TRANSMISSION PROJECT	DATE: 2/10/2010	DRAWN BY: JLM
HAMILTON 138 KV TRANSMISSION 90 - 180 DEG ANGLE VERTICAL POLE CONSTRUCTION WITH 13.8KV DISTRIBUTION	REV:	REV BY:

STD #6



69301.1

13312

REFERENCE CITY OF HAMILTON
ELECTRICAL STANDARDS

69301.1

13312

'LONGLINE' TRANSMISSION PROJECT	DATE: 2/10/2010	DRAWN BY: JLM
HAMILTON 138 KV TRANSMISSION 0 - 2 DEGREE ANGLE VERTICAL POLE CONSTRUCTION WITH 13.8KV DISTRIBUTION	REV:	REV BY:

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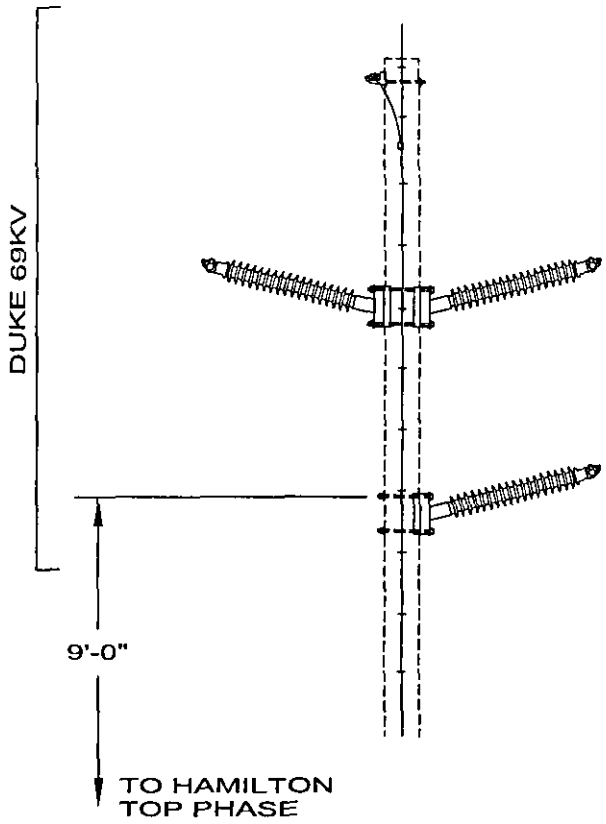

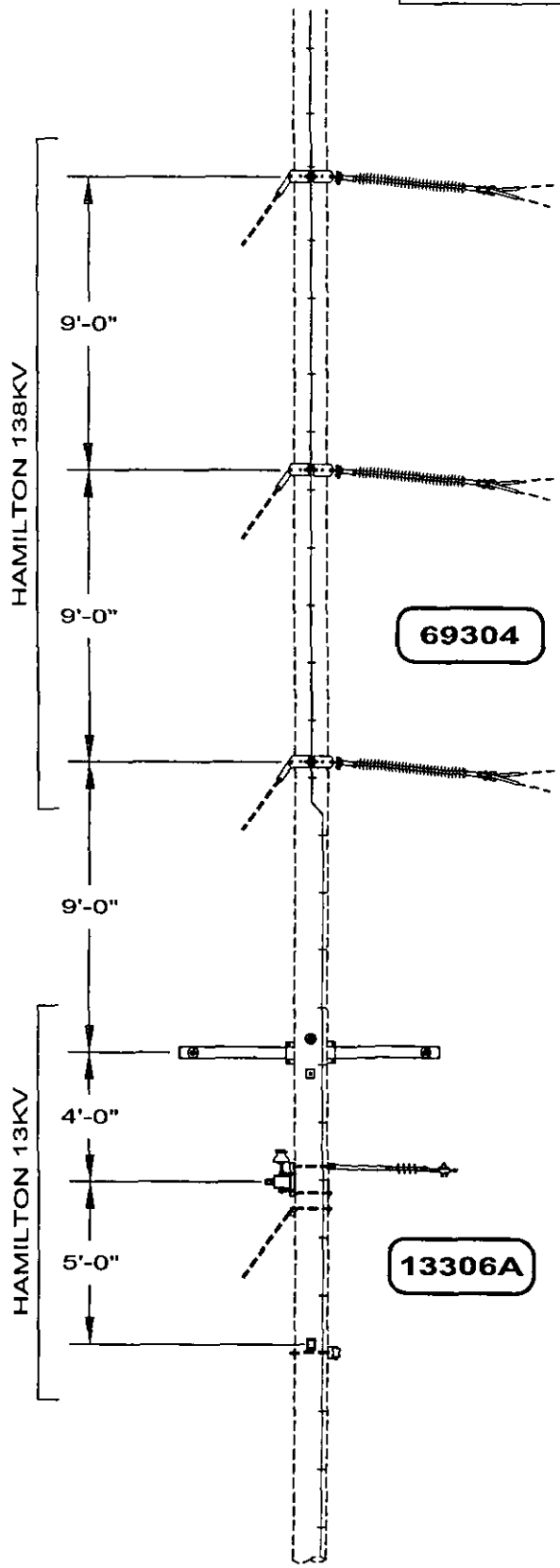

REFERENCE CITY OF HAMILTON
ELECTRICAL STANDARDS

69304

13306A

'LONGLINE' TRANSMISSION PROJECT	DATE: 2/10/2010	DRAWN BY: JLM
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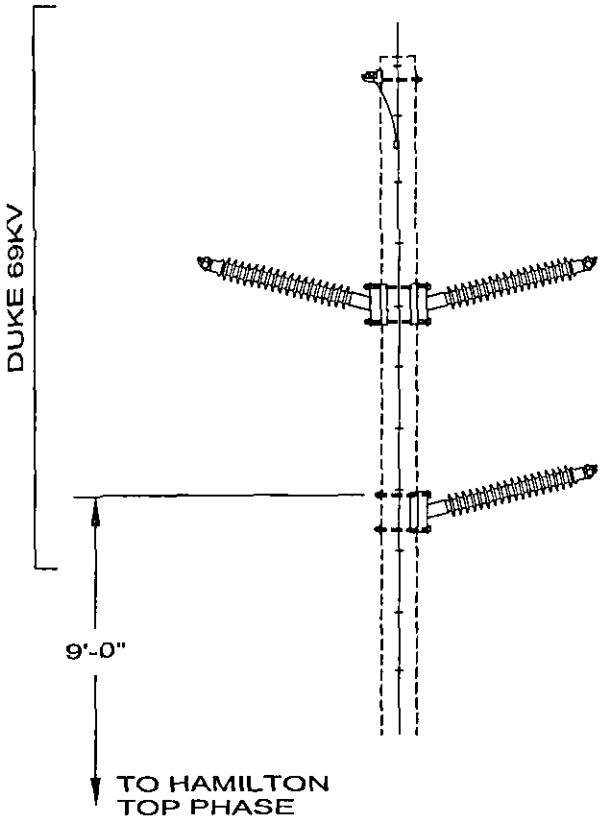
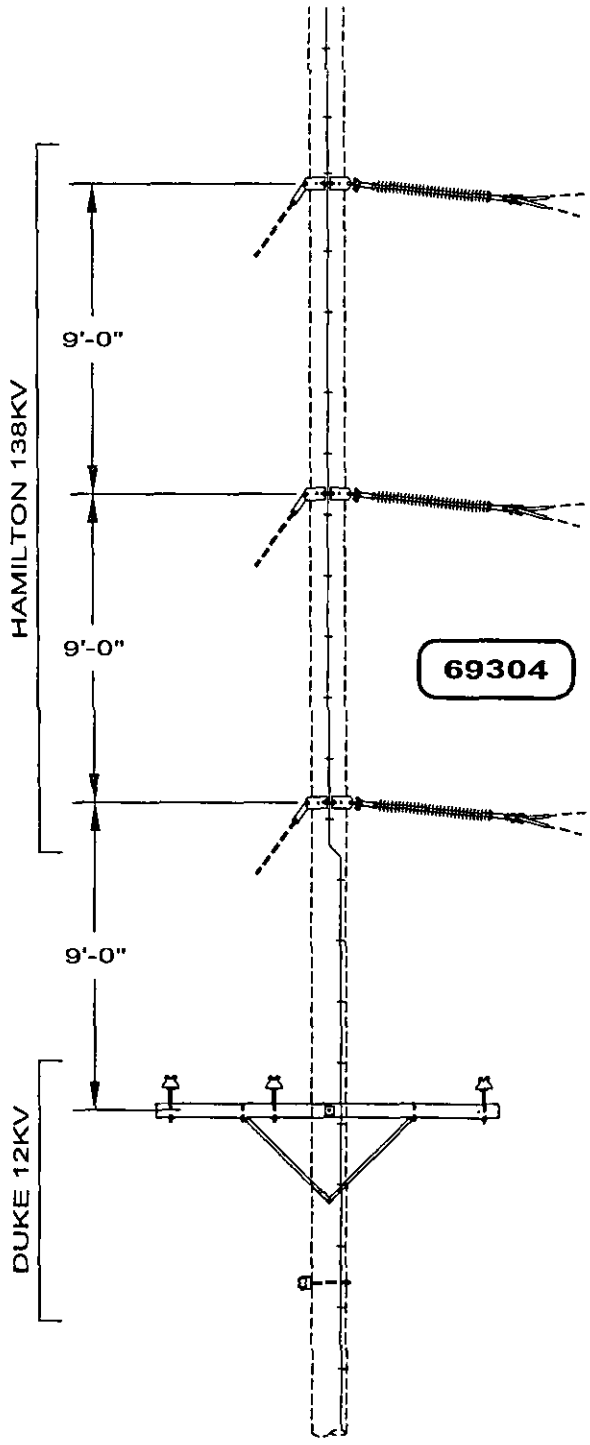
STD #8





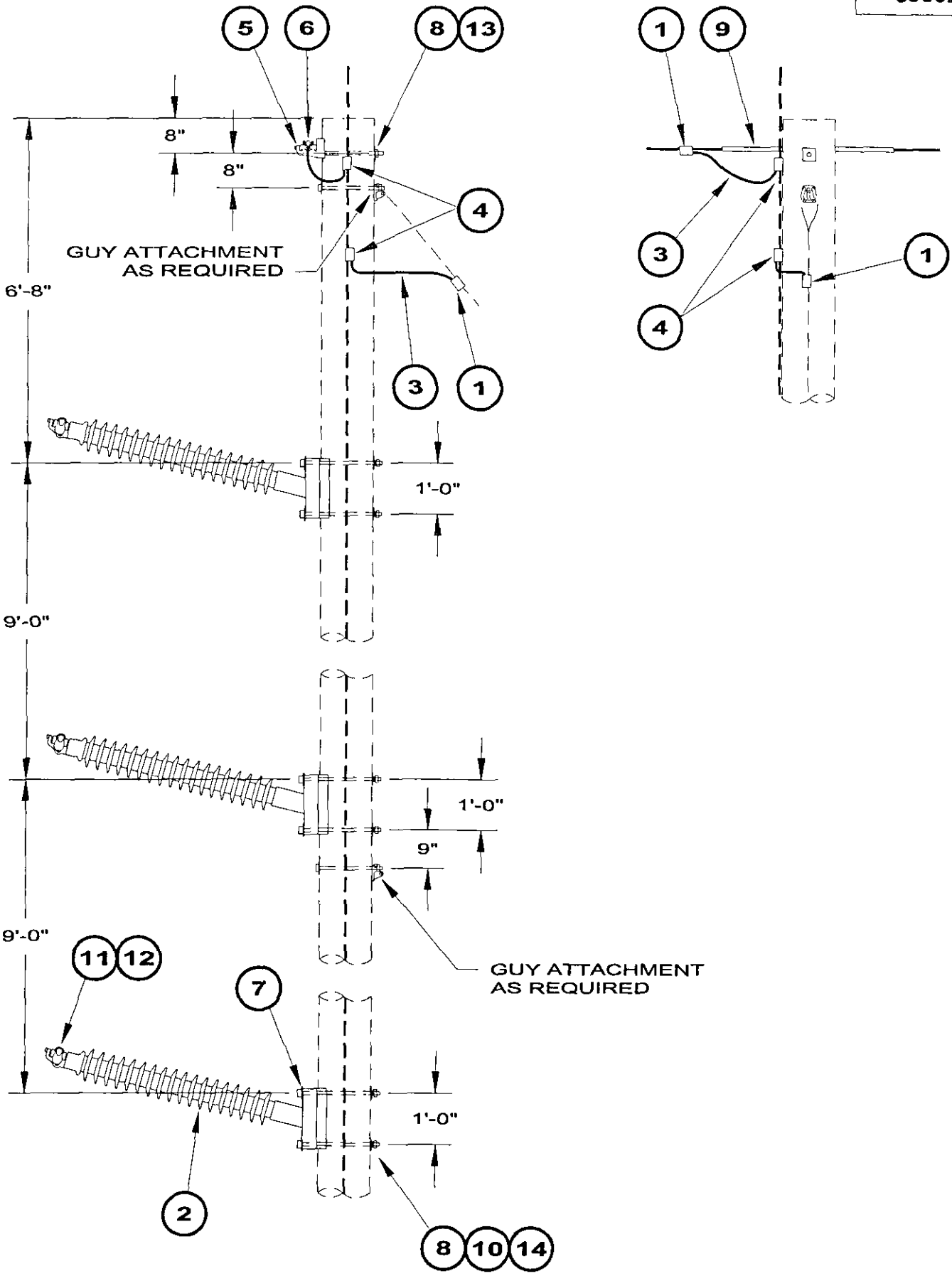
69304

REFERENCE CITY OF HAMILTON
ELECTRICAL STANDARDS

69304

'LONGLINE' TRANSMISSION PROJECT	DATE: 2/10/2010	DRAWN BY: JLM
HAMILTON 138 KV TRANSMISSION RUNNING ANGLE VERTICAL POLE CONSTRUCTION	REV:	REV BY:

69302



	DATE:	DRAWN BY:
	5/12/2005	SF
69 KV AND 138 KV TRANSMISSION 3 - 15 DEGREE ANGLE VERTICAL POLE CONSTRUCTION	REV: 3/5/2009	REV BY: JLM

69302

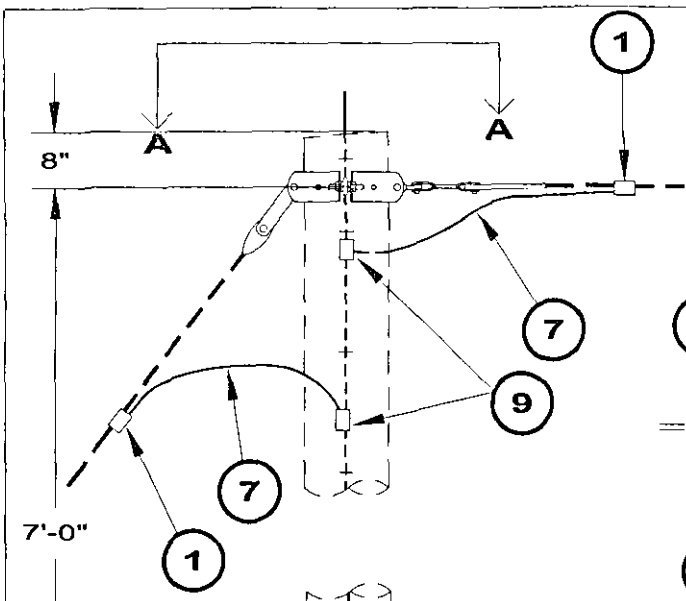
CITY OF HAMILTON

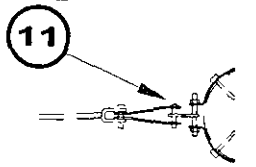
ELECTRICAL STANDARD
MATERIAL LIST

ITEM	QUANTITY	CITY PART NO.	DESCRIPTION
1	2	40171	SQUEEZE-ON
2	3	41072	HORIZ. INSULATOR POST, RUBBER, CLAMP-STYLE
3	AS REQD	42560	#4 COPPERWELD
4	2	43265	SQUEEZE-ON #302-82
5	1	44291	STATIC WIRE BRACKET
6	1	44293	CLAMP, STATIC 7#10 ALUMOWELD
7	6	44424	SQUARE FLAT WASHER, 3/4" HOLE
8	7	44510	SQUARE CURVED WASHER, 3/4" HOLE
9	1	44925	ARMOR ROD 7#10 ALUMOWELD
10	6	AS REQD	3/4" MACHINE BOLT, LENGTH AS REQD
11	3	AS REQD	ARMOR ROD
12	3	AS REQD	CLAMP, HORIZONTAL INSULATOR
13	1	AS REQD	LINE POST STUD, 3/4"
14	6	AS REQD	SPRING WASHER

	DATE:	DRAWN BY:
	5/12/2005	SF
69 KV AND 138 KV TRANSMISSION 3 - 15 DEGREE ANGLE VERTICAL POLE CONSTRUCTION	REV: 3/5/2009	REV BY: JLM

69305





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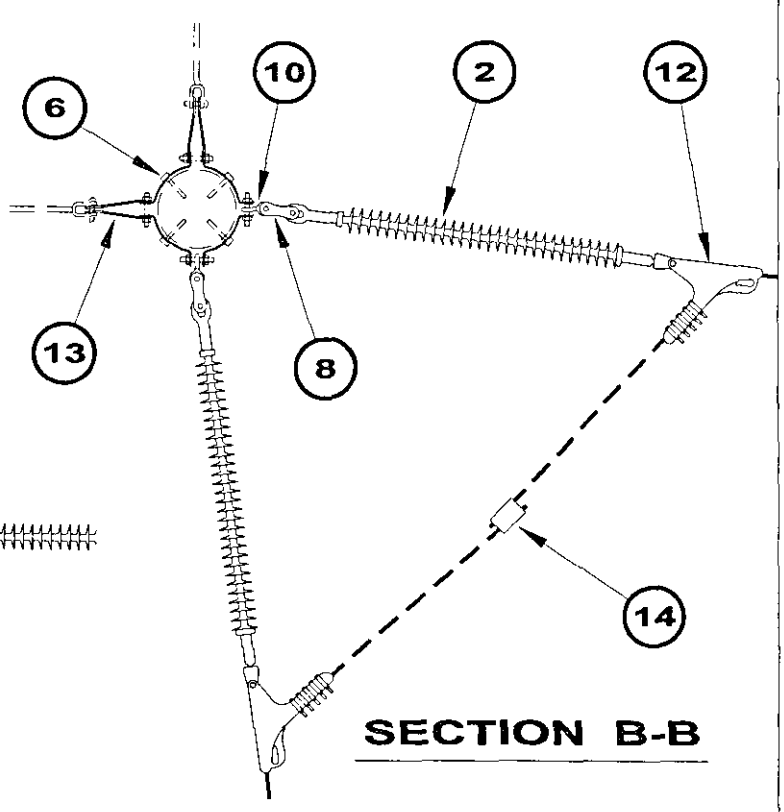
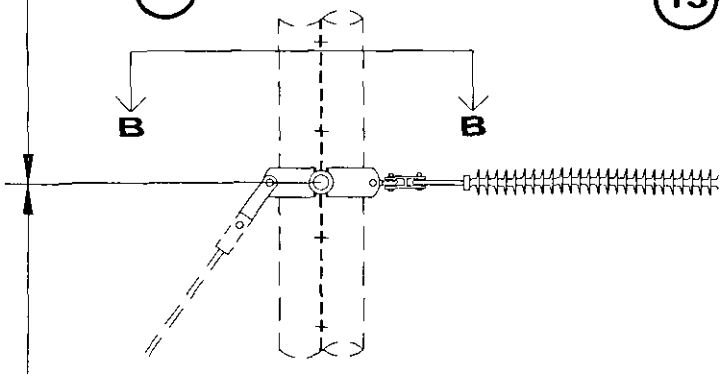
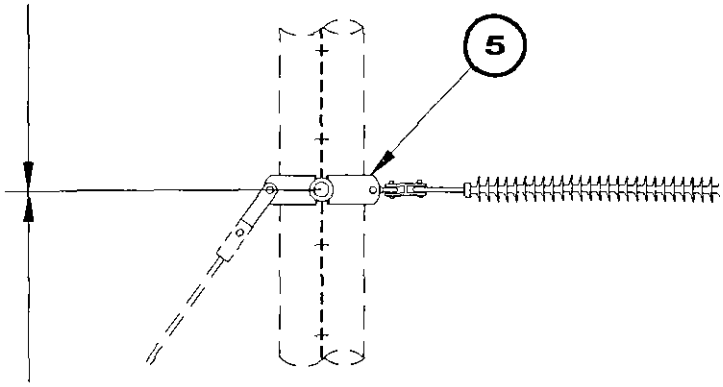
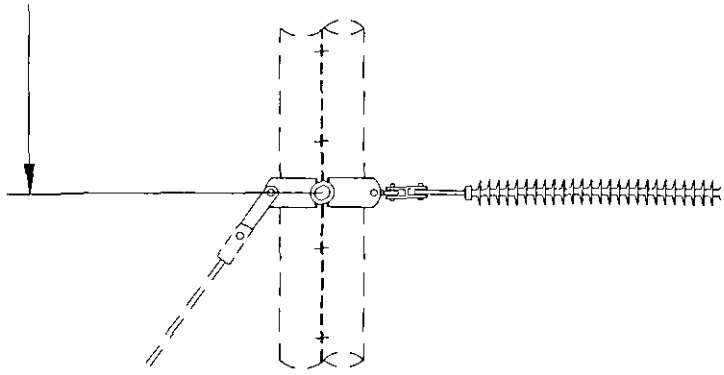
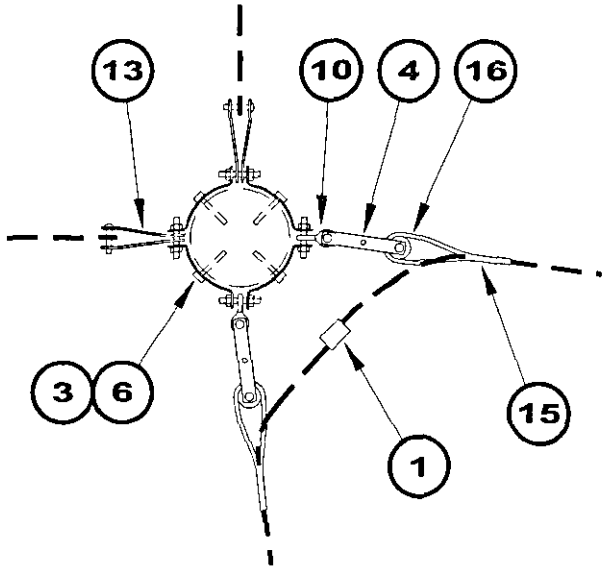


SECTION B-B









SECTION A-A

	DATE:	DRAWN BY:
	2/11/2003	SF
69 KV AND 138 KV TRANSMISSION 60 - 90 DEGREE ANGLE VERTICAL POLE CONSTRUCTION	REV: 9/4/2009	REV BY: JLM

CITY OF HAMILTON

69305

ELECTRICAL STANDARD
MATERIAL LIST

ITEM	QUANTITY	CITY PART NO.	DESCRIPTION
1	3	40171	SQUEEZE-ON
2	6	41073	SUSPENSION INSULATOR, 69 KV AND 138 KV
3	1	41181	FOUR-WAY POLE BAND - STATIC
4	2	41450	CLEVIS-TO-CLEVIS LINK
5	3	42078	FOUR-WAY POLE BAND - PHASES
6	16	42181	1/2" X 4 1/2" LAG SCREW
7	AS REQD	42560	#4 COPPERWELD
8	6	43255	CLEVIS-TO-CLEVIS H-LINK
9	2	43265	SQUEEZE-ON #302-82
10	8	44137	FIGURE 8 LINK, TWISTED
11	AS REQD	44141	FIGURE 8 LINK, PLAIN
12	6	44358	STRAIN CLAMP
13	8	44480	CONNECTING LINK
14	3	AS REQD	AMPACT CONNECTOR
15	2	AS REQD	PREFORM
16	2	AS REQD	SHEAVE WHEEL

	DATE:	DRAWN BY:
	2/11/2003	SF
69 KV AND 138 KV TRANSMISSION 60 - 90 DEGREE ANGLE VERTICAL POLE CONSTRUCTION	REV: 9/4/2009	REV BY: JLM

69305

CITY OF HAMILTON

ELECTRICAL STANDARD
MATERIAL LIST

ITEM	QUANTITY	CITY PART NO.	DESCRIPTION
1	3	40171	SQUEEZE-ON
2	6	41073	SUSPENSION INSULATOR, 69 KV AND 138 KV
3	1	41181	FOUR-WAY POLE BAND - STATIC
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14	3	AS REQD	AMPACT CONNECTOR
15	2	AS REQD	PREFORM
16	2	AS REQD	SHEAVE WHEEL

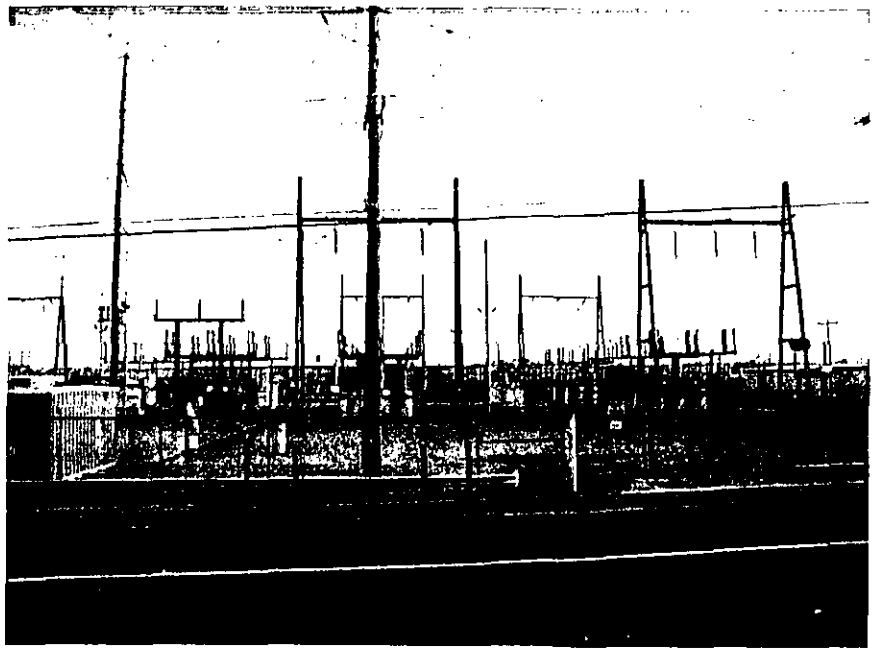
	DATE:	DRAWN BY:
	2/11/2003	SF
69 KV AND 138 KV TRANSMISSION 60 - 90 DEGREE ANGLE VERTICAL POLE CONSTRUCTION	REV: 9/4/2009	REV BY: JLM

Appendix E

BBCM Environmental Documentation Report

ENVIRONMENTAL DOCUMENTATION

SUBSTATION No. 11 TO SUBSTATION NO. 10 138 KV TRANSMISSION LINE (LONG LINE) HAMILTON AND FAIRFIELD, BUTLER COUNTY, OHIO



Report to:

AMERICAN MUNICIPAL POWER, INC.
COLUMBUS, OHIO

Prepared by:

BBC&M ENGINEERING, INC.
ENVIRONMENTAL SERVICES
COLUMBUS, OHIO

January 13, 2010

BBCM
SOLUTIONS TO BUILD ON

January 13, 2010
011-11772-E01

Mr. Randy Meyer
American Municipal Power, Inc.
1111 Schrock Road, Suite 100
Columbus, Ohio 43229

Re: Environmental Documentation
Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line)
Hamilton and Fairfield, Butler County, Ohio

Mr. Meyer:

In accordance with our proposal dated November 24, 2009 and our contract dated October 20, 2008, BBC&M Engineering, Inc. (BBCM) is pleased to submit this final report to American Municipal Power, Inc. (the "Client") documenting the socioeconomic, land use, ecological, and cultural resources in for the Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line) study area. The purpose of the documentation is to meet requirements established in Ohio Administrative Code (OAC) 4906-15-06 and 4906-15-07 for the proposed electric transmission line installation in Hamilton and Fairfield, Butler County, Ohio (the "site").

We appreciate the opportunity to provide our environmental services to you on this project. Please contact us at (614) 793-2226 if you have questions about this report.

Respectfully submitted,

BBC&M ENGINEERING, INC.
Columbus, Ohio

Eric P. Slosser
Project Environmental Scientist

Mary E. Sharrett, P.E., LEED® AP
Senior Engineer

Submitted: 1 electronic copy via BBCM FTP

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ENVIRONMENTAL DOCUMENTATION
Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line)
Hamilton and Fairfield, Butler County, Ohio

I INTRODUCTION

The City of Hamilton proposes to install a new transmission line from Substation No. 11 located along the eastern side of Gilmore Road to Substation No. 10 located north of Clinton Avenue and east of Wulzen Avenue (Long Line). The Proposed Route begins at Substation No. 11 along the east side of Gilmore Road. From Substation No. 11 the Route crosses Gilmore Road then extends northeastward following the west side of Gilmore Road for 550 feet. The Route then generally heads southwest crossing vacant property until it reaches a B&O Railroad (now CSX Corporation, Inc.) corridor. The B&O Railroad is now part of the CSX Corporation, Inc.[1] The Route then generally follows the B&O Railroad corridor to the abandoned General Motors (GM) Plant railroad spur, then to a point on State Route 4 opposite the former GM Plant Substation. The Route then follows the west side of State Route 4 to Zimmerman Avenue, then along Zimmerman Avenue to a point opposite Clinton Avenue, then crossing the CSX Railroad into Substation No. 10. The Proposed Route is approximately 2.24 miles in length. The "Study Area" is considered the area within 1,000 feet of the Proposed Route.

(A) Proposed Alignment

A plan view of the Proposed Route alignment and locations of the substations is included on a United States Geologic Survey (USGS) 7.5 Minute Topographic Quadrangle map (Vicinity Map) in Appendix A. Detailed Plan Sheets illustrating the Route and showing the 100-foot radius are included in Appendix A. The base mapping for the plan sheets was obtained from the Butler County Engineer's office. The Proposed Route is located within the City of Hamilton and the City of Fairfield.

(1) Proposed Route

The Proposed Route begins at the Substation No. 11 (39° 21' 06.52" N, 84° 31' 07.62" W) along the east side of Gilmore Road and is approximately 2.24 miles in length. From Substation No. 11, the Route crosses Gilmore Road then extends northeastward following the west side of Gilmore Road for 550 feet. The Route then turns towards the southwest and utilizes the existing Duke Energy transmission line and a buried natural gas pipeline corridor. The Route then follows the existing utility corridor for approximately 3,235 feet to a B&O Railroad corridor. Just after crossing the B&O Railroad Corridor, the Route turns towards the northwest and follows the B&O Railroad corridor for approximately 3,000 feet to the former Fisher Body Plant factory (4400 Dixie Highway). The Route then heads west crossing the former Fisher Body Plant factory to Dixie Highway. At the Dixie Highway the Route travels along the west side of Dixie Highway back to the B&O Railroad corridor. The Route then travels northwest along the south side of the B&O Railroad corridor and north side of Zimmerman Road to Clinton Avenue where if turns east (along the north side of Clinton Avenue) ending at Substation No. 10 (39° 21' 56.60" N, 84° 32' 49.99" W).

(2) Substations

No new substations are proposed for the installation of the transmission line. The proposed transmission line will connect the existing Substation No. 11 with the existing Substation

[1] The reference maps consulted for this project list this track as the B&O Railroad or Chessie System. For clarity and consistency with most reference maps, this report will continue to refer to this railroad as the B&O Railroad. References to Chessie System and CSX are synonymous with the B&O Railroad.

Number 10. Substation No. 11 is located along the east side of South Gilmore Road at the intersection of Gilmore Road and Bohlke Boulevard (39° 21' 06.52" N, 84° 31' 07.62" W). Substation No. 10 is located in the northeast quadrant of the intersection of Clinton Avenue and Wulzen Avenue (39° 21' 56.60" N, 84° 32' 49.99" W).

II OAC 4906-15-06 – SOCIOECONOMIC AND LAND USE IMPACT DOCUMENTATION

(A) Literature Search and Map Review

The Proposed Route is located within the Cities of Hamilton and Fairfield in Butler County, Ohio. According to the latest U.S. Census Bureau information (2000), Butler County's population in 2000 was 332,807. This represents an approximately 0.9 percent increase since 1990. The U.S. Census Bureau projects the population to increase to 367,670 by 2010. The City of Hamilton experienced a decrease in population from 61,368 in 1990 to 60,690 in 2000. The City of Fairfield experienced an increase in population from 39,729 in 1990 to 42,097 in 2000. Table 06-1 contains summary information regarding population estimates and projections for the Study Area.

TABLE 06-1: U.S. CENSUS BUREAU POPULATION DATA
Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line)
Hamilton and Fairfield, Butler County, Ohio

Government Unit	1990 Census	2000 Census	2010 Projection
United States	248,790,925	281,421,906	308,935,581
Ohio	10,847,115	11,353,140	11,576,181
Butler County	291,479	332,807	367,670
City of Hamilton	61,368	60,690	Not Available
City of Fairfield	39,729	42,097	Not Available

Census information, such as the average household size, median household income, unemployment rate, male and female populations, race, median age, and percent of families below the poverty level was obtained for the city, county, state, and national levels. Documentation is included in Appendix E. In 2000, the average household size in Butler County was 2.61 persons, 2.45 for the City of Hamilton, and 2.44 for the City of Fairfield; compared to national and state averages of 2.59 and 2.49, respectively. The population distribution of Butler County consists of 48.8% male compared to 51.2% female; national percentages are 49.1% male and 50.9% female and state percentages are 48.6% male and 51.4% female. The median household income in 2000 for Butler County was $47,885, the City of Hamilton was $35,365, and the City of Fairfield was $50,316; compared to national and state averages of $41,994 and $40,956.

The 2007 unemployment rate estimate for the nation was 6.3 percent, the state was 7.2%, and the county was 5.6%. The percentage of people below poverty was 8.7% for Butler County, 13.41% for the City of Hamilton, and 4.24% for the City of Fairfield; national and state percentages were 12.38 and 10.60, respectively. The percentage of the population that is white for the City of Hamilton is 88%, for the City of Fairfield is 89%, and Butler County is 90.5% compared to Ohio (84%) and the United States (69.1%). The average population age for the City of Hamilton is 34.9 years, City of Fairfield is 35.2 years, and Butler County is 34.2 years compared to Ohio at 36.2 years and the United States at 35.3 years. Table 06-2 contains summary information from the U.S. Census Bureau.

TABLE 06-2: U.S. CENSUS BUREAU DATA SUMMARY – 2000 DATA Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line) Hamilton and Fairfield, Butler County, Ohio					
	United States	**Ohio**	**Butler Co.**	**Hamilton**	**Fairfield**
Average Household Size	2.59	2.49	2.61	2.45	2.44
Median Household Income	$41,994	$40,956	$47,885	$35,365	$50,316
Unemployment Rate (2007)	6.3%	7.2%	5.6%	Not Available	Not Available
Male Population	138,053,563	5,512,262	162,370	29,183	20,494
Female Population	143,368,343	5,840,878	170,437	31,507	21,603
Race Total – White Alone	194,552,774 (69.1%)	9,538,111 (84%)	301,078 (90.5%)	53,386 (88%)	37,450 (89%)
% Below Poverty Level	12.38	10.60	8.70	13.41	4.24
Median Age	35.3	36.2	34.2	34.9	35.2

(B) Route Alignments and Land Use

(1) Proposed Transmission Line Route

A Vicinity Map at 1:24,000-scale (1 inch equals 2,000 feet), including the Study Area (1,000 feet on either side of the Proposed Route) is included in Appendix A. The base map consists of United States Geologic Survey (USGS) mapping from the Hamilton and Greenhills quadrangles. Detailed Project Plan Sheets (1" = 100' scale) illustrating the alignment and substation locations are included in Appendix A.

(a) Proposed Route

2.24-miles: the Proposed Route begins at Substation No. 11 along the east side of Gilmore Road. From the Substation No. 11, the Route crosses Gilmore Road then extends northeastward following the west side of Gilmore Road for 550 feet. The Route then turns towards the southwest and utilizes the existing Duke Energy transmission line and a buried natural gas pipeline corridor. The Route then follows the existing utility corridor for approximately 3,235 feet to a B&O Railroad corridor. Just after crossing the B&O Railroad Corridor, the Route turns towards the northwest and follows the B&O Railroad corridor for approximately 3,000 feet to the former Fisher Body Plant factory (4400 Dixie Highway). The Route then heads west crossing the former Fisher Body Plant factory to Dixie Highway. At Dixie Highway the Route travels along the west side of Dixie Highway back to the B&O Railroad corridor. The Route then travels northwest along the south side of the B&O Railroad corridor and north side of Zimmerman Road to Clinton Avenue where if turns east (along the north side of Clinton Avenue) ending at Substation No. 10.

(2) Substation Locations

The Proposed Route originates at Substation No. 11 (39° 21' 06.52" N, 84° 31' 07.62" W), an existing substation along the eastern side of Gilmore Road. The Proposed Route connects to Substation No. 10 (39° 21' 56.60" N, 84° 32' 49.99" W), which is located along the northern side of Clinton Avenue.

(3) General Land Use

Land use in the Study Area is primarily mixed agricultural, residential, commercial, industrial, vacant land, and agricultural land. Based on a pedestrian reconnaissance, 42 residential properties, twelve commercial properties, one industrial/manufacturing/warehousing property, eight vacant properties, three agricultural properties, one public works property (municipal

natural gas distribution facility), and two historic structures are located within 100 feet of the Route.

Land uses were determined by a pedestrian reconnaissance of the areas within 100 feet of the Route and by utilizing county auditor maps, city zoning maps, and aerial photographs. A copy of the portion of the City of Hamilton Zoning Plan and City of Fairfield Zoning Plan which includes a 1,000-foot radius are included in Appendix B, along with a description of the City of Hamilton Land Use Districts.

(a) Residential

The Study Area is located in an urban area. A large residential area consisting primarily of single-family homes is located in the west side of the Study Area. A smaller residential area is located south of the central portion of the Route. Based on an aerial photograph and the Butler County Geographic Information System (GIS) mapping, approximately 600 homes are located within 1,000 feet of the Proposed Route. Based on the pedestrian reconnaissance, 41 properties with single-family homes and one Property with an apartment are located within 100 feet of the Proposed Route.

(b) Commercial

The Route is located in an urban area with commercial businesses located along major transportation corridors such as Dixie Highway. Commercial businesses are also located along the Bobmeyer Road and Gilmore Road corridors. The City of Hamilton Zoning Map and City of Fairfield Zoning Map (Appendix B) indicate areas zoned as business districts within 1,000 feet of the Study Area are located along the north side of Clinton Avenue and Hooven Avenue and the western side of the Dixie Highway corridor.

Based on the pedestrian reconnaissance, twelve commercial businesses are located within 100 feet of the Proposed Route. The businesses are located along the Dixie Highway corridor, along Hooven Avenue, and along Tedia Way and Bohlke Boulevard in a business park. The commercial sites include several unmarked commercial buildings, several multi-tenant strip shopping buildings, and an automotive repair business.

(c) Industrial

The City of Hamilton Zoning Map (Appendix B) indicates areas zoned for industrial purposes within 1,000 feet of the Study Area are located along the eastern side of Gilmore Road, both sides of the Dixie Highway/State Route 4 corridor, and along the southern side of Hooven Avenue. The City of Fairfield Zoning Map (Appendix B) indicates areas zoned for industrial purposes with 1,000 feet of the Study Area are located along both sides of the Norfolk & Western Railroad corridor and along both sides of the Proposed Route through the City of Fairfield.

Based on the pedestrian reconnaissance, one industrial site is located within 100 feet of the Proposed Route along the B&O Railroad corridor. The site is the former Fisher Body Plant factory at 4400 Dixie Highway.

(d) Cultural

Ohio Valley Archaeology, Inc. (OVAI) completed a "Phase I Cultural Resource Literature Review" report dated December 11, 2008 for the project. The review included a pedestrian survey of the Route. A copy of the report is included in Appendix D. As part of the report, the following resources were reviewed:

1. *An Archeological Atlas of Ohio* (Mills 1914);
2. Ohio Archaeological Inventory (OAI);
3. Ohio Historic Inventory (OHI);
4. National Register of Historic Places (NRHP) files;
5. OHPO Cultural Resource Management (CRM) reports;
6. 19th century atlas of Butler County;
7. The early 20th century USGS 15' series topographic maps; and
8. Modern USGS 7.5' series topographic maps.

No OAI or NRHP listings were identified within 100 feet of the Proposed Route. Two OHI listings (BUT-1366-09 and BUT-1370-12) are located within 100 feet of the Proposed Route. BUT-1366-09 is a residential structure constructed during 1895 and is located in the northwest quadrant of the intersection of Dixie Highway and Bishop Avenue. BUT-1370-12 is the former 1945 Fisher Body Plant factory located in the northeast quadrant of the intersection of Dixie Highway and Symmes Road. The locations of the recorded structures are illustrated on Sheet 6 through Sheet 8 of the Project Plan Sheets in Appendix A and on Figure 2 in Appendix D.

(e) Agricultural

Agricultural land was observed within 100 feet of the Proposed Route during the pedestrian reconnaissance. Additional areas of agricultural land were observed within 1,000 feet of the Route on aerial photographs and/or auditor mapping; no areas are indicated as being zoned agricultural on the city zoning maps. Zoning maps are included in Appendix B.

The Proposed Route crosses over agricultural land on the eastern portion of the Route as it leaves Substation No. 11. Agricultural land was also noted adjacent to portions of the B&O Railroad corridor.

(f) Recreational

One park, Gilmore Ponds Preserve Metropark, was observed within 1,000 feet of the Proposed Route. The location of the park is indicated on the Noise Sensitive Areas Plan (Appendix B). No other parks or recreational land were noted within 1,000 feet of the Proposed Route on the Butler County Engineer's Office Transportation Map, aerial photographs, auditor mapping, zoning plans, or USGS map.

(g) Institutional

No institutional properties such as schools, hospitals, police, cemeteries, churches, or fire departments were observed with 100 feet of the Proposed Route during the pedestrian reconnaissance. No churches, schools, hospitals, police, cemeteries, or fire departments were identified within 1,000 feet of the Route based on the Butler County GIS.

(4) Transportation Corridors

The Proposed Route is located in an urban area and most transportation routes are neighborhood city streets. Major transportation corridors within 1,000 feet of the Proposed Route are the B&O Railroad corridor located along the Proposed Route, a small portion of the Norfolk & Western Railroad corridor located in the northwestern portion of the Study Area, and Dixie Highway located on the west side of the Study Area. Transportation corridors such as roads and railroads are illustrated on the Transportation Corridor Plan (Appendix B).

(5) Existing Utility Corridors

A driving reconnaissance was conducted in the vicinity of the Study Area to identify high-tension/high voltage power lines. No overhead high-tension/high voltage power lines (above 140 kV) were noted within 1,000 feet of the Proposed Route.

A portion of the eastern part of the Proposed Route shares a corridor with a buried natural gas transmission line. The Transportation and Utility Corridor Plan (Appendix B) illustrates the major transportation corridors and the location of the buried natural gas transmission line.

(6) Noise Sensitive Areas

A pedestrian reconnaissance was used to identify noise sensitive sites such as residences, educational sites, day care facilities, health care facilities, religious sites, parks, recreational areas, wildlife refuges, and cultural/historic sites within 100 feet of the Route. The Butler County GIS and City of Hamilton and Fairfield Zoning Plans were also used to identify noise sensitive areas within the Study Area.

Residences

Forty-two residential noise sensitive sites (41 houses and one apartment) are located within 100 feet of the Proposed Route. Additionally, over 600 homes are located within the Study Area. The location of houses within 100 feet of the Proposed and Alternate Routes are indicated on the Project Plan Sheets (Appendix A).

Educational Sites, Day Care Facilities, Parks, Recreational Areas, Wildlife Refuges

One park, Gilmore Ponds Preserve Metropark, is located within 100 feet of the eastern portion of the Proposed Route. The park is located along the east side of South Gilmore Road. The location of the park is indicated on Project Plan Sheet Number 15 and on the Noise Sensitive Area Plan.

Religious Sites

No churches were identified within the Study Area.

Health Care Facilities

No health care facilities were noted within 1,000 feet of the Routes.

Cultural/Historic Sites

Two previously recorded historical structures, BUT-1366-09 and BUT-1370-12, are located within 100 feet of the Proposed Route. BUT-1366-09 is a residential structure and BUT-1370-12 is the former Fisher Body Plant factory.

The location of the residential neighborhoods, park, and cultural sites within the Study Area are indicated on the Noise-Sensitive Areas Plan (Appendix B).

(7) Agricultural Land

The Study Area is located in urban areas within the City of Hamilton and the City of Fairfield. Agricultural land was observed within 100 feet of the Proposed Route during the pedestrian reconnaissance. The Proposed Route crosses over agricultural land on the eastern portion of the Route near Tedia Way. Agricultural land was also noted within 100 feet of the Route along the east side of the B&O Railroad corridor. Additional agricultural land was observed within the Study Area on aerial photographs and auditor mapping. No areas are indicated as being zoned agricultural on the city zoning maps. Zoning Maps are included in Appendix B.

III CULTURAL RESOURCES

OVAI completed a "Phase I Cultural Resource Literature Review" report dated December 22, 2009 for the project. The review included a pedestrian survey of the Route. A copy of the report is included in Appendix D.

Two OHI structures (BUT-1366-09 and BUT-1370-12) are located along the Proposed Route and are illustrated on Project Plan Sheet Number 6 and the Noise-Sensitive Areas Plan. No structures appear to be within or adjacent to the Proposed Route on the 1875 atlas, 1915 15' USGS map, or the current 1965 (PR 1981 and 1988) 7.5' USGS maps.

Based on the map information extending back to 1875, it is unlikely that significant historic-era archaeological sites will be impacted by the Proposed Route. Visual impact along the Route is considered minimal because the Route will generally utilize existing lines.

The Substation No. 11 to Substation No. 10, 138 kV Overhead Transmission Line project will not impact known cultural resources. In addition, the Proposed Route will have little or no potential to impact archaeological sites. No further work is recommended for the project.

IV OAC 4906-15-07 – ECOLOGICAL DOCUMENTATION

(A) Summary of Ecological Studies

A wetland delineation and ecological assessment were conducted along the Proposed Route which included a 200 foot wide project corridor, as well as an Alternate Route. Field work was conducted in November 2008. A summary of the results of the ecological field surveys are presented below. A copy of BBCM's "Preliminary Jurisdictional Waters Delineation (PJWD)" report dated January 8, 2009 is included in Appendix C. A Supplemental Letter dated January 7, 2010 summarizing the Route change is also included in Appendix C.

Supplemental ecological information within 1,000 feet of the Proposed Route was obtained through the review of aerial photography, topographic maps, National Wetland Inventory (NWI) maps, and county soil surveys. Information regarding threatened, endangered, commercial, and recreational species was obtained from the Ohio Department of Natural Resources – Division of Natural Areas and Preserves (ODNR-DNAP), Ohio Department of Natural Resources – Division of Wildlife (ODNR-DOW), and United States Fish and Wildlife Service (USFWS).

(B) Mapping

(1) Proposed Routing

Refer to Sections I (A) (1) and (2) of this report for the Proposed transmission line route alignment.

(2) Substation Locations

Refer to Section I (B) (2) of this report for the substation locations.

(3) Summary of Ecological Features and Mapping

According to the Hamilton and Greenhills, Ohio quadrangles (United States Geological Survey (USGS) 7.5-minute topographic quadrangles), the Study Area is located on a divide between the Great Miami River drainage basin to the west and the Mill Creek drainage basin to the east. Surface elevations range from approximately 600 feet above mean sea level (MSL) to approximately 630 feet above MSL. A copy of a portion of the USGS maps is included in Appendix A.

Aerial photography obtained from the Butler County Engineer's office from 2005 indicates the majority of the Study Area is located in urban areas within the City of Hamilton and the City of Fairfield. A copy of the Project Plans with the 2005 aerial photograph is included in Appendix B.

(a) Streams and Drainage Channels

Based on topographic mapping, aerial photography, and soil survey mapping, five potential streams were mapped within the Study Area. Eight jurisdictional streams were observed within 100 feet of the Routes during the pedestrian reconnaissance. Eight Class 1 ephemeral streams were documented along the Proposed and Alternate Route corridors. Refer to BBCM's PJWD report in Appendix C for additional details.

(b) Lakes, Ponds, and Reservoirs

No lakes, ponds, or reservoirs were observed within 100 feet of the Route during the pedestrian reconnaissance. Based on topographic mapping and aerial photography, two potential ponds/impoundments, three "dry ponds," and a depression area are mapped on the northwest and northeast portions of the Study Area.

(c) Marshes, Swamps, and Other Wetlands

According to the National Wetlands Inventory (NWI) map with coverage of the Study Area (Hamilton and Greenhills, Ohio quadrangles), 20 wetlands are mapped within the Study Area; however, no wetlands are mapped within 100 feet of the Routes. A copy of a portion of the NWI map is included in Appendix B. The wetland features mapped in the Study Area are summarized in Table 06-3.

TABLE 06-3: NWI ON-SITE WETLANDS
Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line)
Hamilton and Fairfield, Butler County, Ohio

NWI Symbol	# Mapped On-site	Description
PEMA	1	Palustrine, Emergent, Temporarily Flooded
PEMC	8	Palustrine, Emergent, Seasonally Flooded
PEMCd	2	Palustrine, Emergent, Seasonally Flooded, Partially drained/ditched
PFO1C	3	Palustrine, Forested, Broad-leaved deciduous, Seasonally Flooded
PUBFx	1	Palustrine, Unconsolidated Bottom, Semi-permanently flooded, Excavated
PUBGx	5	Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated

Based on topographic mapping and aerial photography, potential wetlands are mapped on the central and east portions of the Study Area. Eight wetlands totaling approximately 1.51 acres were observed within 100 feet of the Alternate Route during the pedestrian reconnaissance. Three forested Category 2 wetlands and six Category 1 wetlands were documented along the Routes. Refer to BBCM's PJWD report in Appendix C for additional details.

(d) Woody and Herbaceous Vegetation Land

The Study Area is located in an urban area and the majority of land along the Route is dominated by developed or previously disturbed properties. New fields, old fields, scrub/shrub habitat, and early-successional to second-growth forested areas are located along the southeast portion of the Proposed Route and north and east portions of the Alternate Route. Aerial photography indicates similar woody and herbaceous land on the north, east, and southeast portions of the Study Area.

(e) Threatened and Endangered Species

The proposed project is located within the range of the federally-endangered Indiana bat (*Myotis sodalis*). According to ODNR (letter dated December 18, 2008), an Indiana bat record is located within five miles of the Study Area. The project is also within the range of several state endangered species. Potential Indiana bat habitat trees were observed along the northeast, southeast, and east portions of the Routes during the pedestrian reconnaissance. Habitat in these areas generally consisted of scrub/shrub, old fields, and secondary growth forest areas. More extensive forested tracts containing some mature tree species were noted along North Gilmore Road. It is unknown at this time if potential Indiana bat trees will need to be cleared for the project.

(f) Commercial and Recreational Species

The north and west portions of the Study Area consist of developed or disturbed areas with limited wildlife habitat. Potential habitat for commercial and/or recreational species is located on the east and southeast portions of the Study Area. This habitat consists of fallow fields, scrub/shrub areas, and forested areas. Commercially important species consist of those traded or trapped for fur, pelts, etc. Recreational species are those listed by ODNR as acceptable for hunting. A list of commercial and recreational species with potential habitat in Butler County is provided in Appendix E.

(4) Soil Associations

According to the "Web Soil Survey 2.0 – Butler County, Ohio" (Natural Resources Conservation Service), 20 soil types are mapped in the Study Area. Twelve of the soil types are classified as "well drained", two soil types are classified as "somewhat poorly drained," one soil type is classified as "poorly drained," three soil types are classified as "moderately well drained," and two soil types have no classification. One of the soil types is listed as a hydric soil. The boundaries of the soil mapping units are indicated on the soil survey map (Appendix B). Table 06-4 provides a summary of the drainage class and hydric soil listing for each soil type.

TABLE 06-4: MAPPED SOIL TYPES Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line) Hamilton and Fairfield, Butler County, Ohio			
Mapping Unit Symbol	**Mapping Unit Name**	**Drainage Class**	**Hydric Soil***
ElA	Eden loam, 0 to 2% slopes	Well drained	No
ElB2	Eldean loam, 2 to 6% slopes	Well drained	No
ElC2	Eldean loam, 6 to 12% slopes	Well drained	No
EuA	Eldean-Urban land complex, nearly level	Well drained	No
EuB	Eldean-Urban land complex, gently sloping	Well drained	No
FcA	Fincastle silt loam, 0 to 2% slopes	Somewhat poorly drained	No
MsC2	Miamian-Russell silt loams, 6 to 12% slopes, moderately eroded	Well drained	No
Pa	Patton silty clay loam	Poorly drained	Yes
RdA	Raub silt loam, 0 to 2% slopes	Somewhat poorly drained	No
RvB2	Russell-Miamian silt loams, 2 to 6% slopes, moderately eroded	Well drained	No
RxB	Russell-Urban land complex, gently sloping	Well drained	No
TpA	Tippecanoe silt loam, 0 to 2% slopes	Moderately well drained	No
Ud	Udorthents	Not Listed	No
Uf	Udorthents and Dumps	Not Listed	No
UnA	Uniontown silt loam, 0 to 2% slopes	Well drained	No
UnB	Uniontown silt loam, 2 to 6% slopes	Well drained	No
UpA	Urban land-Eldean complex, nearly level	Well drained	No
WyC2	Wynn silt loam, 6 to 12% slopes, moderately	Well drained	No
XeB	Xenia silt loam, 2 to 6% slopes	Moderately well drained	No
XeB2	Xenia silt loam, 2 to 6% slopes, moderately eroded	Moderately well drained	No

*Source: "Hydric Soils List – Butler County, Ohio" (USDA – NRCS, December 2007).

(C) Streams and Bodies of Water

Based on topographic mapping, aerial photography, and soil survey mapping, five potential streams were mapped within the Study Area. On November 13, 20, and 21, 2008, BBCM personnel visually observed a 200-foot-corridor along both Routes for indicators of streams and other waters of the U.S. Eight Class 1 ephemeral streams were observed within 100 feet of the Routes during the pedestrian reconnaissance. Refer to BBCM's PJWD report in Appendix C for additional details including stream photographs and assessments.

Flood Insurance Rate Maps (FIRMs) were reviewed to determine potential flood zones within the Study Area. According to the maps, the Study Area is located in Flood Zone C which is described as "areas of minimal flooding." Copies of the FIRMs and associated flood zone descriptions are included in Appendix B.

(D) Wetlands

On November 13, 20, and 21, 2008, BBCM personnel visually observed a 200-foot-corridor along the Route for indicators of potential wetlands. On-site wetland determinations were performed in general accordance with the Routine On-Site Determination method described in the "Corps of Engineers Wetlands Delineation Manual" published by U.S. Army Corps of Engineers in 1987.

Refer to BBCM's PJWD report in Appendix C which includes the documentation of data points, photographs taken during the pedestrian reconnaissance, and wetland assessments.

(E) Naturally Occurring Vegetation

Naturally occurring vegetation is primarily limited to the north, east, and southeast portions of the Study Area. The areas consist primarily of previously disturbed new fields, scrub/shrub areas, and forested habitat. Dominant woody species observed along the Routes included: *Populus deltoides* (Eastern cottonwood), *Fraxinus pennsylvanica* (green ash), *Acer rubrum* (red maple), *Rosa multiflora* (multiflora rose), and *Lonicera maackii* (amur honeysuckle). Typical urban landscape areas are present along the southwest and western portions of the Routes.

(F) Commercial or Recreational Value and Threatened and Endangered Species

According to ODNR-DNAP, the following records of rare or endangered species are listed within one-half mile of the Proposed Route (Table 06-5):

TABLE 06-5: STATE-LISTED SPECIES
Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line)
Hamilton and Fairfield, Butler County, Ohio

Scientific Name	Common Name	Taxon	State Status
Clonophis kirtlandii	Kirtland's snake	Reptile	Threatened
Cyperus acuminatus	Pale umbrella-sedge	Plant	Threatened
Echinodorus berteroi	Burhead	Plant	Endangered
Ixobrychus exilis	Least bittern	Bird	Threatened
Nycticorax nycticorax	Black-crowned night-heron	Bird	Threatened
Porzana carolina	Sora rail	Bird	Special Concern

The species records are concentrated near the east portion of the Study Area. Gilmore Ponds Preserve is also indicated on the east portion of the Study Area. A copy of the ONDR-DNAP correspondence with a location map of listed species records is included in Appendix E.

ODNR-DOW provided comments regarding threatened and endangered species, as summarized below:

- Indiana bat (*Myotis sodalis*): If trees with suitable bat habitat must be cut between April 2 and September 29, a mist net survey should be conducted in May or June prior to cutting. If no tree removal is proposed, the project is not likely to impact this species.

- Blue corporal dragonfly (*Ladona deplanata*): Due to the mobility of this species, the project is not likely to impact the blue corporal.

- Kramer's cave beetle (*Pseudanophthalmus Kramer*): The Ohio Cave Protection Law protects the habitat for this species; therefore, the project is not likely to impact this species.

- Ohio cave beetle (*Pseudanophthalmus ohioensis*): The Ohio Cave Protection Law protects the habitat for this species; therefore, the project is not likely to impact this species.

- Cave salamander (*Eurycea lucifuga*): Records of this species are located in Fairfield Township which is adjacent to the City of Hamilton. Unless a professional herpetologist approved by ODNR-DOW determines the presence of the salamander is highly unlikely, a presence/absence survey may be required.

Potential Indiana bat habitat trees were observed along the northeast, southeast, and east portions of the Routes during the pedestrian reconnaissance. Habitat in these areas generally consisted of scrub/shrub, old fields, and secondary growth forest areas. More extensive forested tracts containing some mature tree species were noted along North Gilmore Road. It is unknown at this time if potential bat trees will need to be cleared for the project.

A species profile obtained from ODNR-DOW web-site indicates the cave salamander is typically located in areas in or around "caves, seeps, springs, springhouses, and small forested limestone creeks associated with groundwater." None of the aforementioned habitat types were observed during the pedestrian reconnaissance, therefore, the project is not likely to impact this species. Copies of the ODNR-DOW letter and species profiles for the Indiana bat and cave salamander are included in Appendix E.

USFWS was contacted by BBCM to review threatened and endangered species records for the project. USFWS responded in a letter dated January 5, 2008 (included in Appendix E). The Indiana bat was listed for endangered species. No Federal wildlife refuges, wilderness areas, or Critical Habitat were within the vicinity of the site. The USFWS "County Distribution of Ohio's Federally Threatened, Endangered, Proposed and Candidate Species" list dated November 2008 was reviewed. For Butler County, the following species are listed: Indiana bat. A copy of the species list is included in Appendix E.

(G) Slopes and/or Highly Erodible Land

According to the "Web Soil Survey 2.0 – Butler County, Ohio" (Natural Resources Conservation Service), soils within the Study Area have slopes ranging from 0% to 12%. Only 0.7% of the land in the Study Area has listed slopes of 6% or more. The majority (83.6%) of the land in the Study Area has slopes of 0% to 6%. Slopes are not listed for 15.6% of the land in the Study Area.

Approximately 20.3% of the land is designated "potentially highly erodible land," 45.7% of the land is designated "not highly erodible land," and 33.9% of the land has no designation. The boundaries of the soil mapping units are indicated on the soil survey map (Appendix B). Table 06-6 provides a summary of the mapped soil names, slope, and highly erodible land designation.

TABLE 06-6: SOIL SLOPES AND HIGHLY ERODIBLE LAND Substation No. 11 to Substation No. 10 138 kV Transmission Line (Long Line) Hamilton and Fairfield, Butler County, Ohio			
Mapping Unit Symbol	**Mapping Unit Name**	**Slopes**	**Highly Erodible Land Designation***
ElA	Eden loam, 0 to 2% slopes	0% to 2%	Not Highly Erodible Land
ElB2	Eldean loam, 2 to 6% slopes	2% to 6%	Potentially Highly Erodible Land
ElC2	Eldean loam, 6 to 12% slopes	6% to 12%	Potentially Highly Erodible Land
EuA	Eldean-Urban land complex, nearly level	0% to 2%	Not Listed
EuB	Eldean-Urban land complex, gently sloping	2% to 6%	Not Listed
FcA	Fincastle silt loam, 0 to 2% slopes	0% to 2%	Not Highly Erodible Land
MsC2	Miamian-Russell silt loams, 6 to 12% slopes, moderately eroded	6% to 12%	Potentially Highly Erodible Land
Pa	Patton silty clay loam	0% to 2%	Not Highly Erodible Land
RdA	Raub silt loam, 0 to 2% slopes	0% to 2%	Not Highly Erodible Land
RvB2	Russell-Miamian silt loams, 2 to 6% slopes, moderately eroded	2% to 6%	Potentially Highly Erodible Land
RxB	Russell-Urban land complex, gently sloping	2% to 6%	Not Highly Erodible Land
TpA	Tippecanoe silt loam, 0 to 2% slopes	0% to 2%	Not Highly Erodible Land
Ud	Udorthents	Not Listed	Not Listed
Uf	Udorthents and Dumps	Not Listed	Not Listed
UnA	Uniontown silt loam, 0 to 2% slopes	0% to 2%	Not Highly Erodible Land
UnB	Uniontown silt loam, 2 to 6% slopes	2% to 6%	Potentially Highly Erodible Land
UpA	Urban land-Eldean complex, nearly level	0% to 2%	Not Listed
WyC2	Wynn silt loam, 6 to 12% slopes, moderately	6% to 12%	Potentially Highly Erodible Land
XeB	Xenia silt loam, 2 to 6% slopes	2% to 6%	Potentially Highly Erodible Land
XeB2	Xenia silt loam, 2 to 6% slopes, moderately eroded	2% to 6%	Potentially Highly Erodible Land

*Source: "Highly Erodible Land List – Butler County, Ohio" (USDA – NRCS, December 2004).

V CONCLUSIONS

(A) Land Use

Land use in the Study Area is primarily mixed residential, commercial, industrial, agricultural, and vacant land. Based on the pedestrian survey and review of county and city information, 42 residential properties, twelve commercial properties, one industrial/manufacturing/warehousing property, eight vacant properties, three agricultural properties, one public works property (municipal natural gas distribution facility), and two historic structures are located within 100 feet of the Route.

Forty-four noise sensitive sites (41 houses, one apartment, and two cultural resource listings) are located within 100 feet of the Proposed Route.

Agricultural land was noted within 100 feet of the Proposed Route.

(B) Cultural Resources

Two OHI structures (BUT-1366-09 and BUT-1370-12) are located within 100 feet of the Proposed Route. Based on information extending back to 1875, it is unlikely that significant historic-era archaeological sites will be impacted by the proposed project. The project will not impact known cultural resources and will have little or no potential to impact archaeological sites. No further work was recommended by the archaeological consultant for the project.

(C) Ecological Documentation

The majority of the Study Area consists of previously disturbed and/or developed areas. Weed-covered, scrub/shrub, and forested areas are located on the north, east, and southeast portions of the Study Area. Eight streams and eight wetlands totaling approximately 1.51 acres are located within 100 feet of the Routes. Based on aerial photography and various mapping resources, two potential ponds, 20 wetlands, and five streams are mapped within 1,000 feet of the Routes.

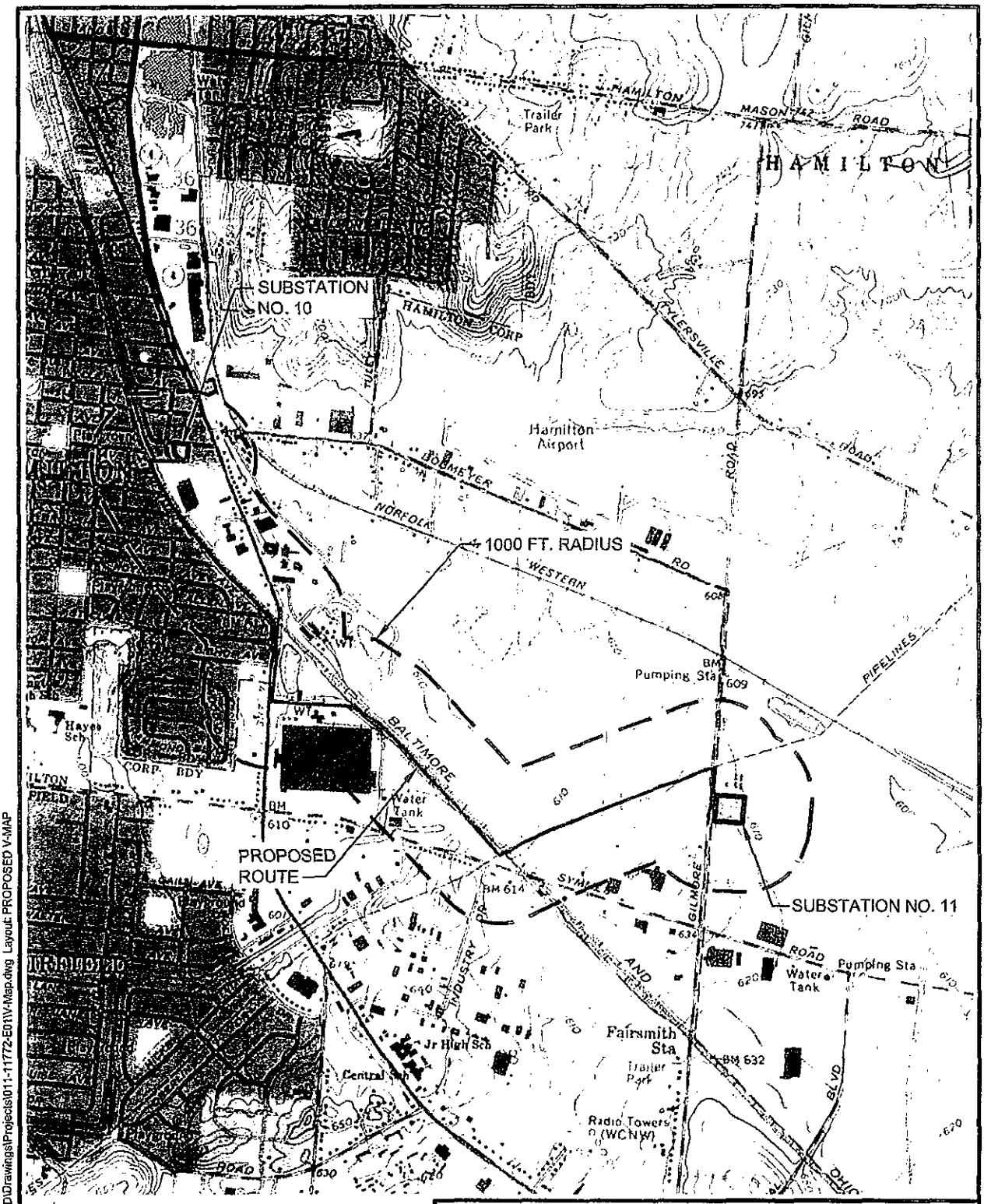
According to flood insurance mapping, the Study Area is located in Flood Zone C. Twenty soil types are mapped within 1,000 feet of the Routes. One hydric soil type is listed within the Study Area. The majority (83.6%) of the land in the Study Area has slopes of 0% to 6%. Approximately 20.3% of the land in the Study Area is designated "potentially highly erodible land," 45.7% of the land is designated "not highly erodible land," and 33.9% of the land has no designation.

The proposed project is located within the range of the federally-endangered Indiana bat (*Myotis sodalis*). Potential Indiana bat habitat trees were noted along the northeast, southeast, and east portions of the Routes during the pedestrian reconnaissance. It is unknown at this time if potential bat trees will need to be cleared for the project.

The project is also within the range of several state endangered species: Blue corporal dragonfly (*Ladona deplanata*), Kramer's cave beetle (*Pseudanophthalmus Kramer*), Ohio cave beetle (*Pseudanophthalmus ohioensis*), and the Cave salamander (*Eurycea lucifuga*). Based on the information provided by the DOW and species habitat information, these species are not anticipated to be impacted by the project.

Six records of state special concern, threatened, and endangered species are listed within one-half mile of the proposed project. The species records are concentrated near the east portion of the Study Area, and are generally associated with wet or marsh-type habitat. One species, burhead (*Echinodorus berteroi*), is listed as endangered and the following species are listed as threatened or special concern: Kirtland's snake (*Clonophis kirtlandii*), pale umbrella-sedge (*Cyperus acuminatus*), least bittern (*Ixobrychus exilis*), black-crowned night heron (*Nycticorax nycticorax*), sora rail (*Porzana carolina*). ODNR should be contacted to determine if the proposed project may impact the referenced species.

APPENDIX A



Project Location
Butler County, Ohio

USGS Mapping:
Hamilton & Greenhills

VICINITY MAP - PROPOSED ROUTE

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: EDV	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 2000'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-0471
Dayton (937) 424-1011

Images: ~OH-it772-E00 USGS.JPG
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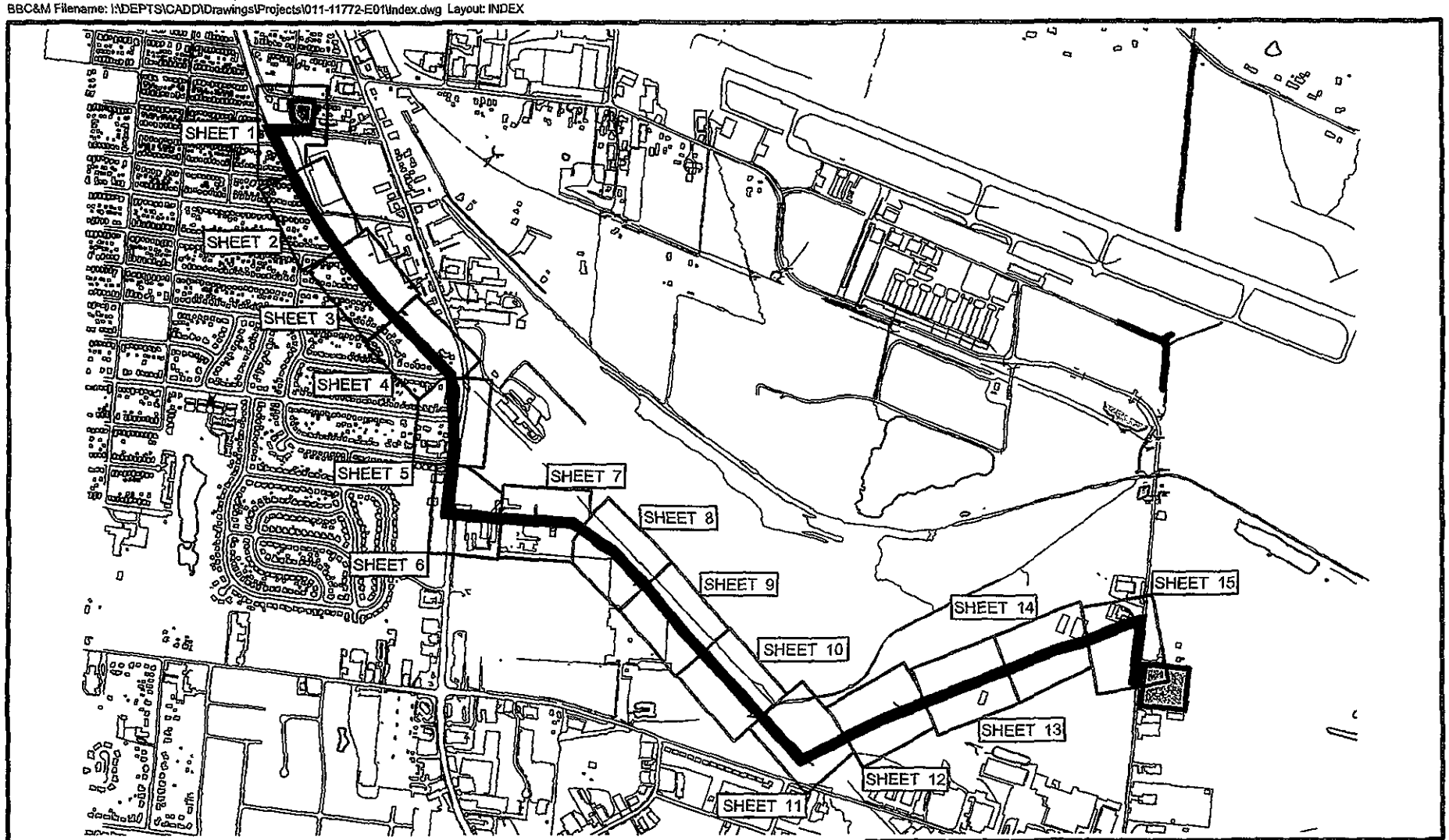

LEGEND

PROPOSED ROUTE

LONG LINE - INDEX

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

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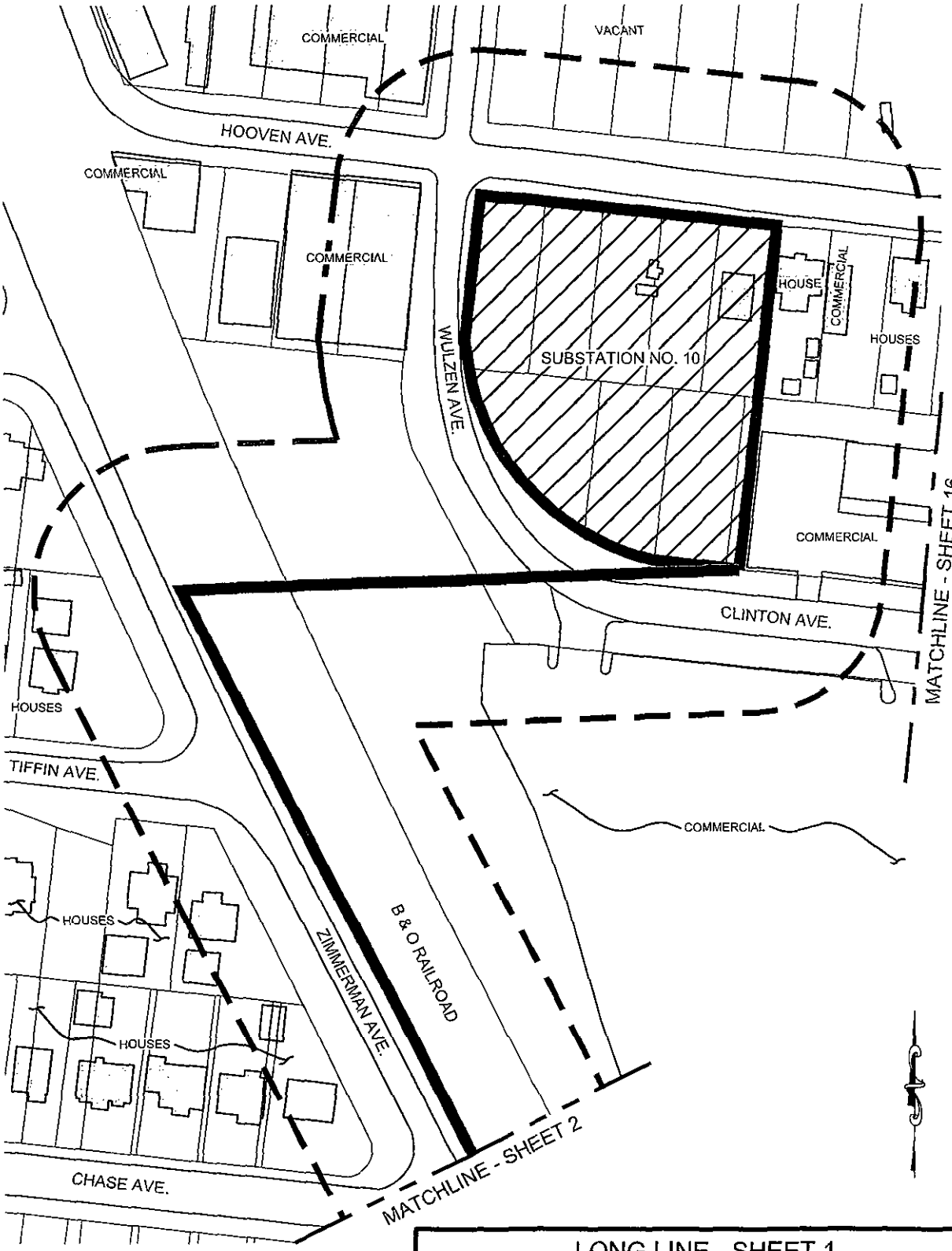
Drawing Date:	12-15-2009	Approved By:	MES
Last Updated:	12-18-2009	Scale:	1" = 1/4 Mile 1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011



LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 1

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: - Aerial.tif
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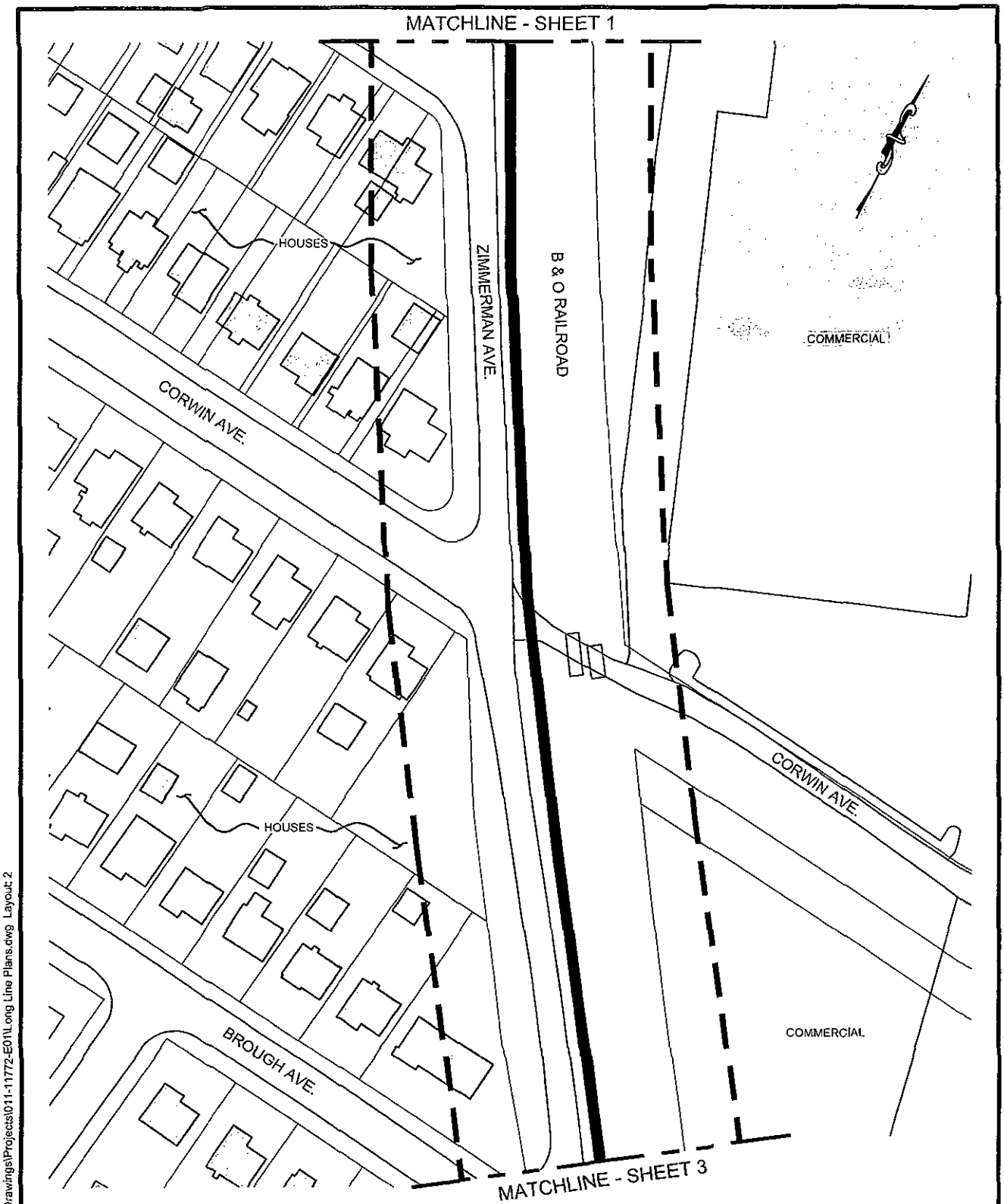

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 2

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBC&M
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

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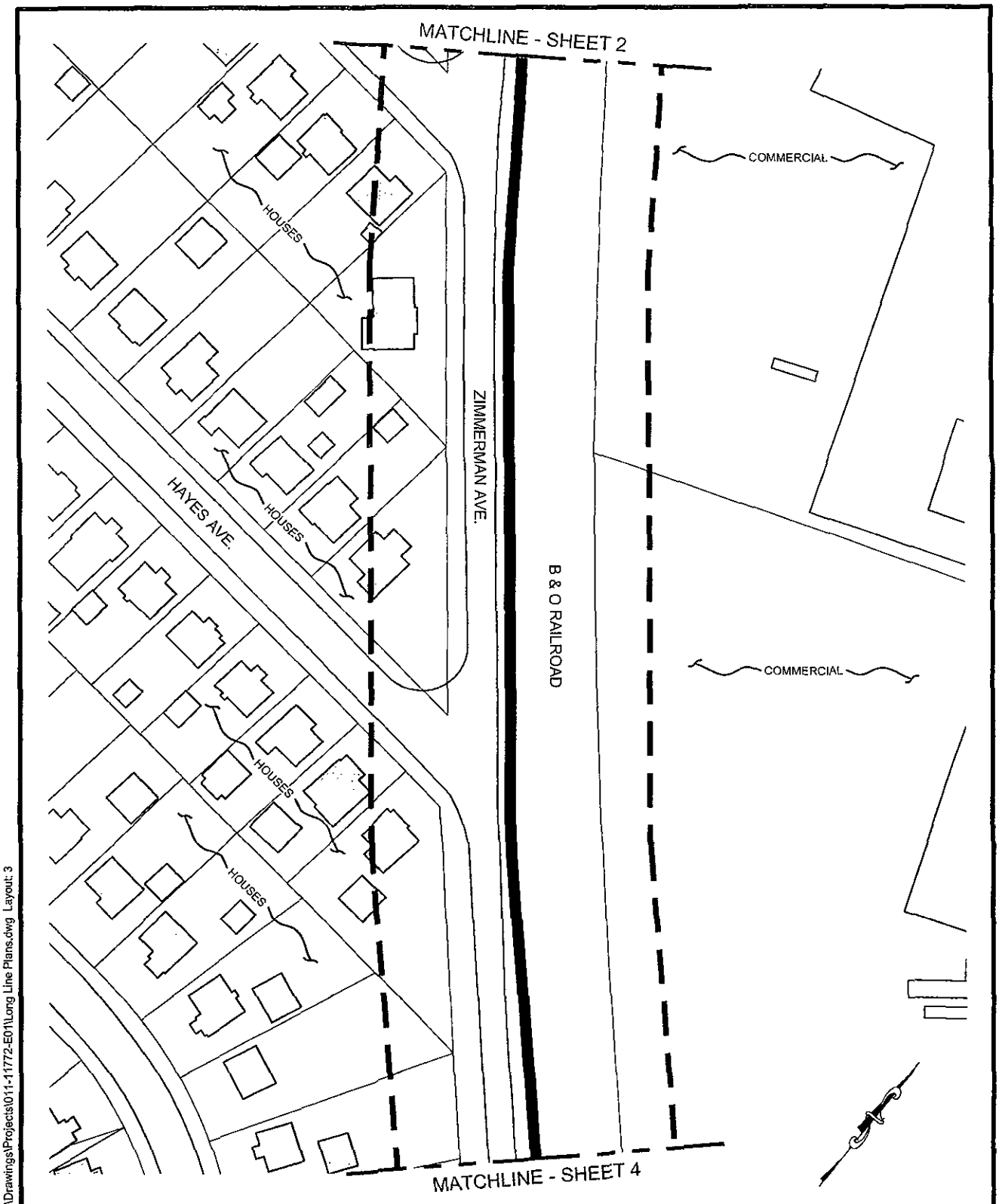


LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 3

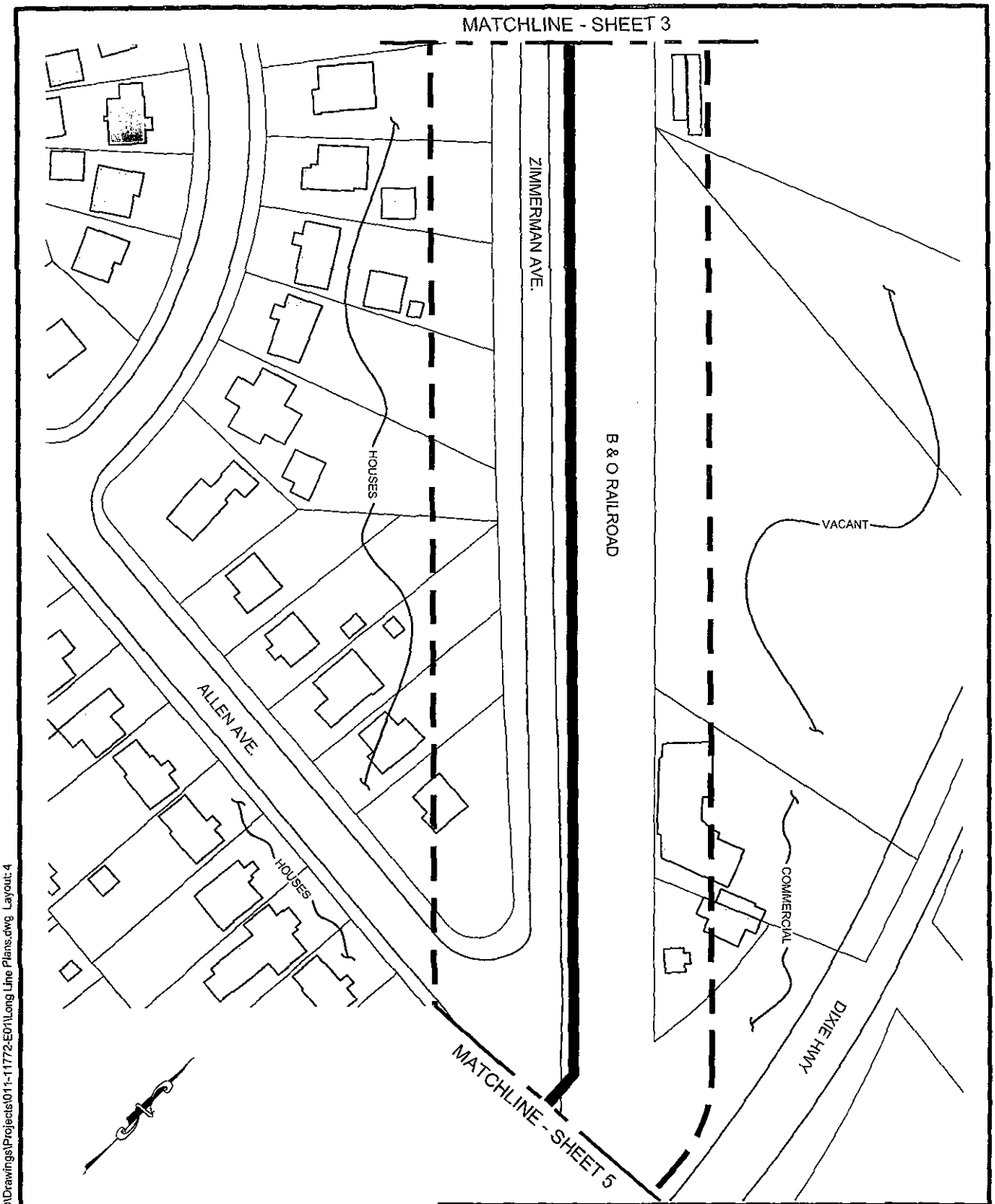
138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: -Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-6-2010 @ 11:34am By: tmckelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E01\Long Line Plans.dwg Layout: 3



LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 4

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
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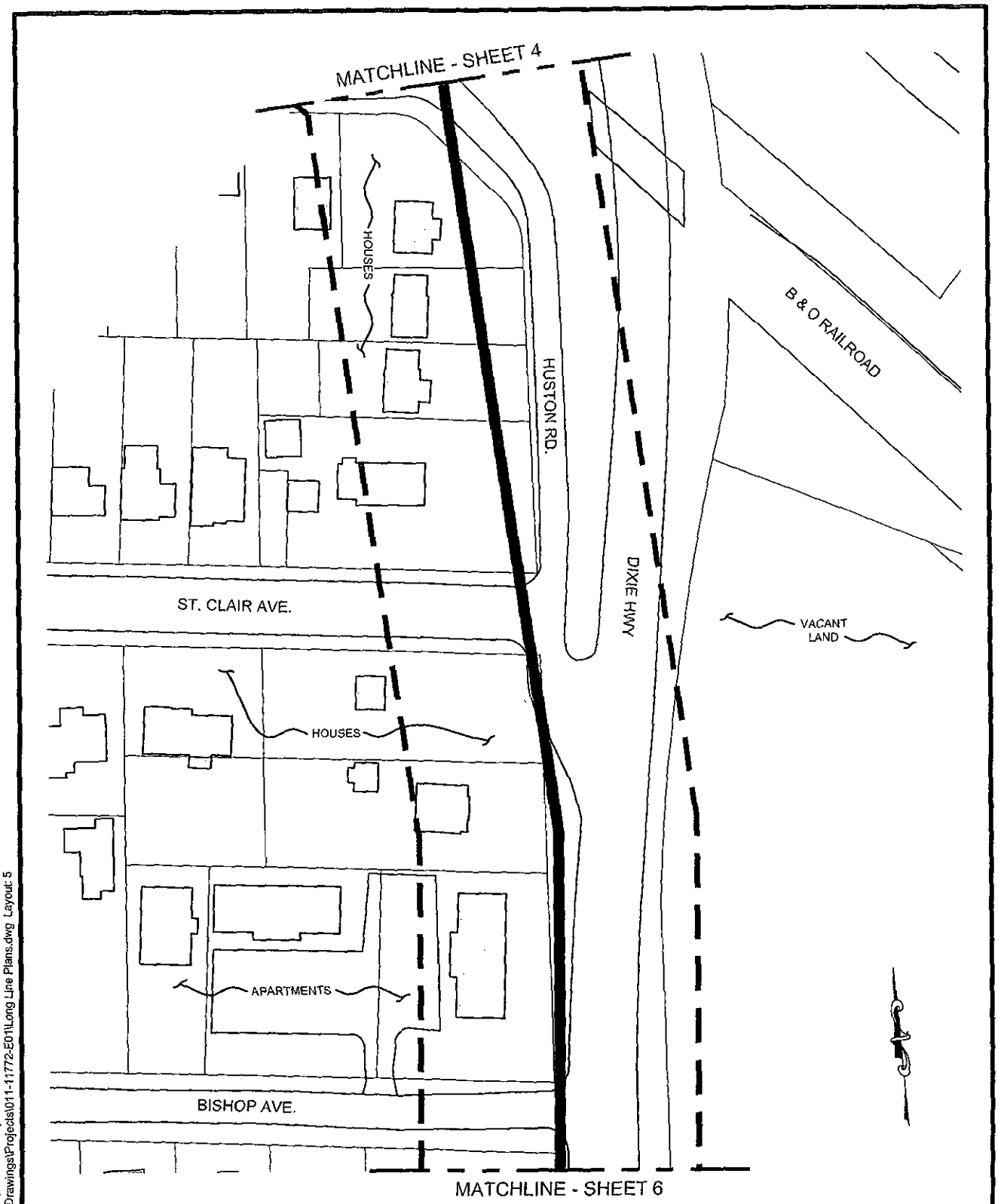

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 5

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-6-2010 @ 11:36am By: lmckelvey
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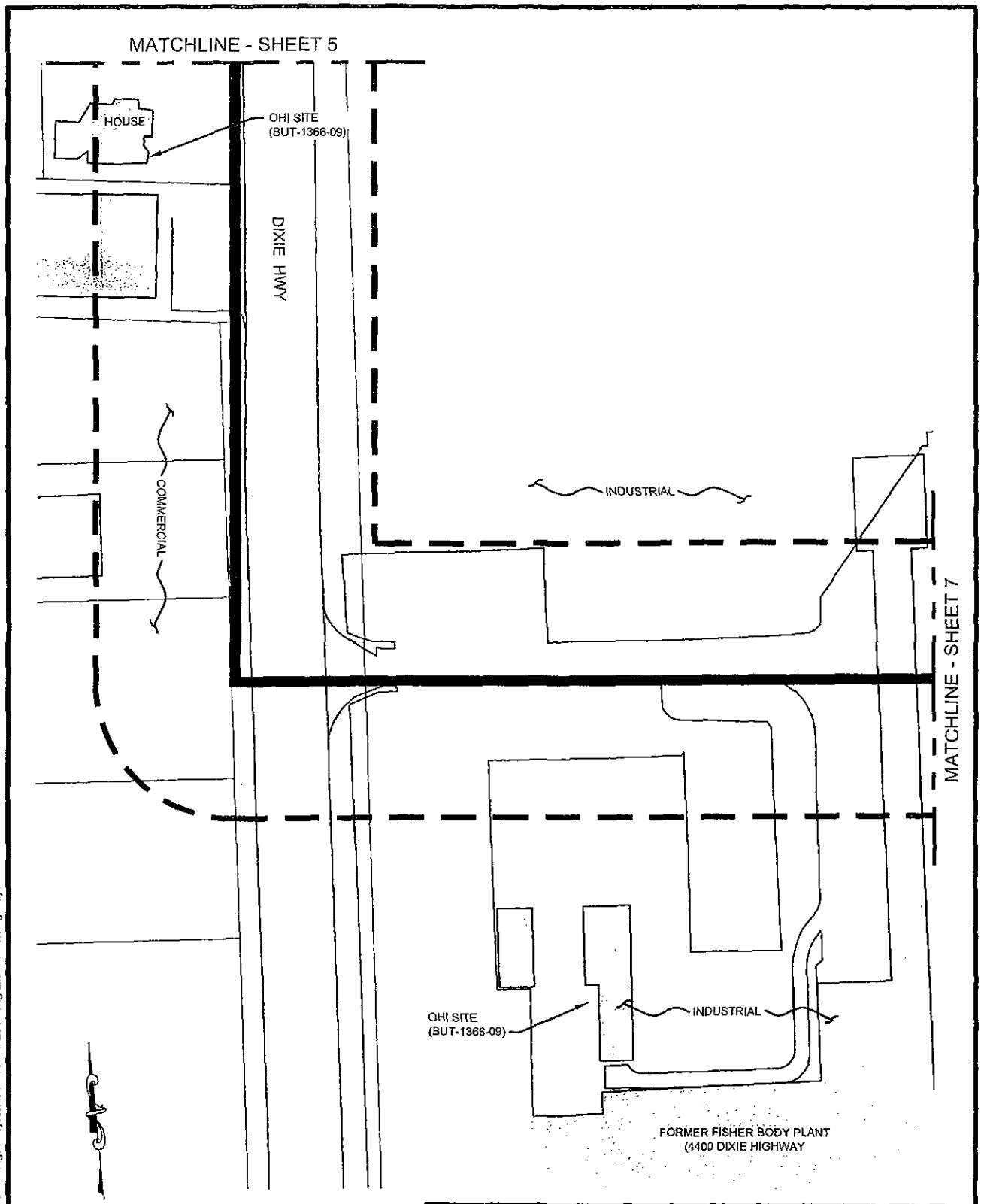

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 6

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: - Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
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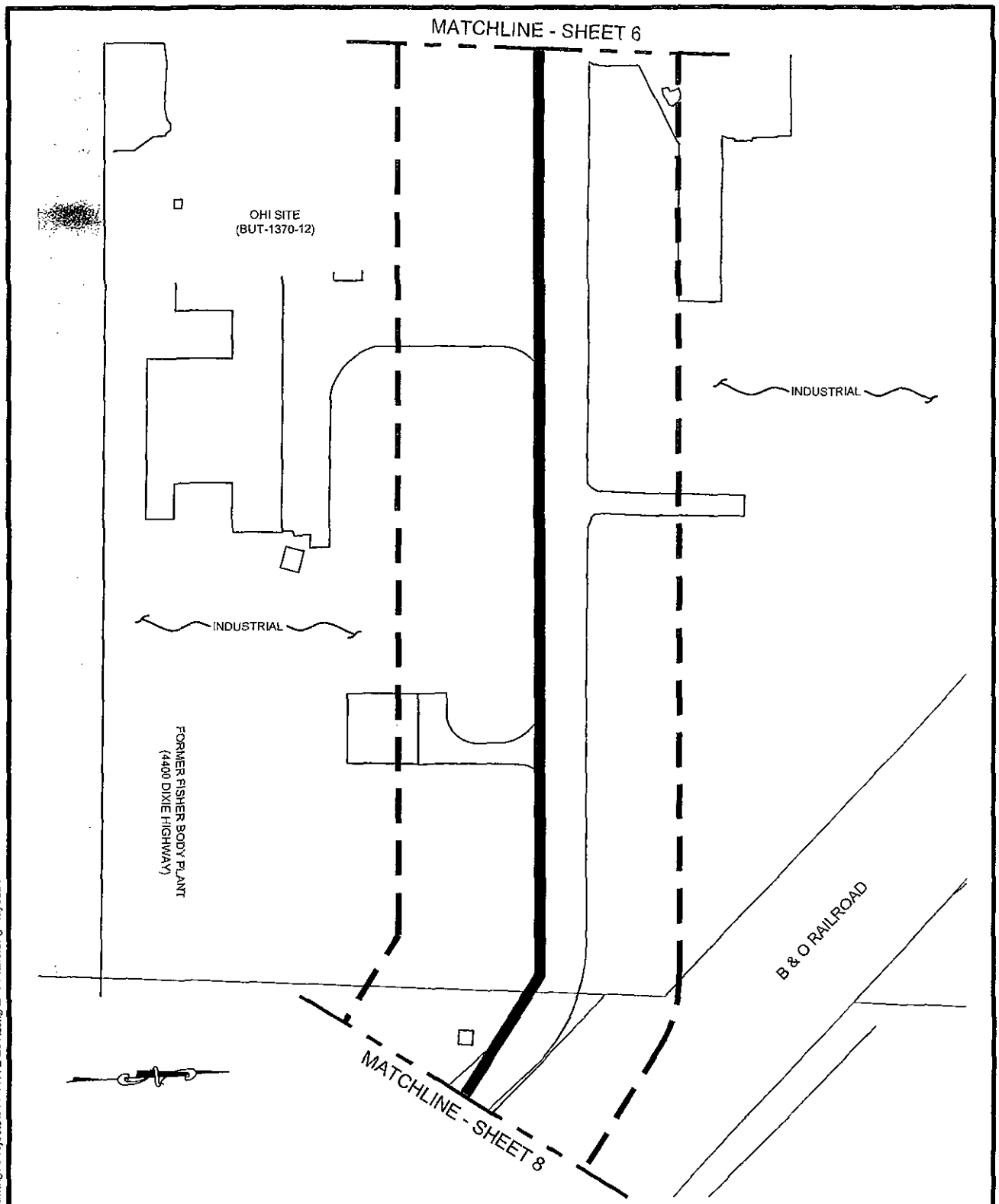


LEGEND

PROPOSED ROUTE

100' RADIUS

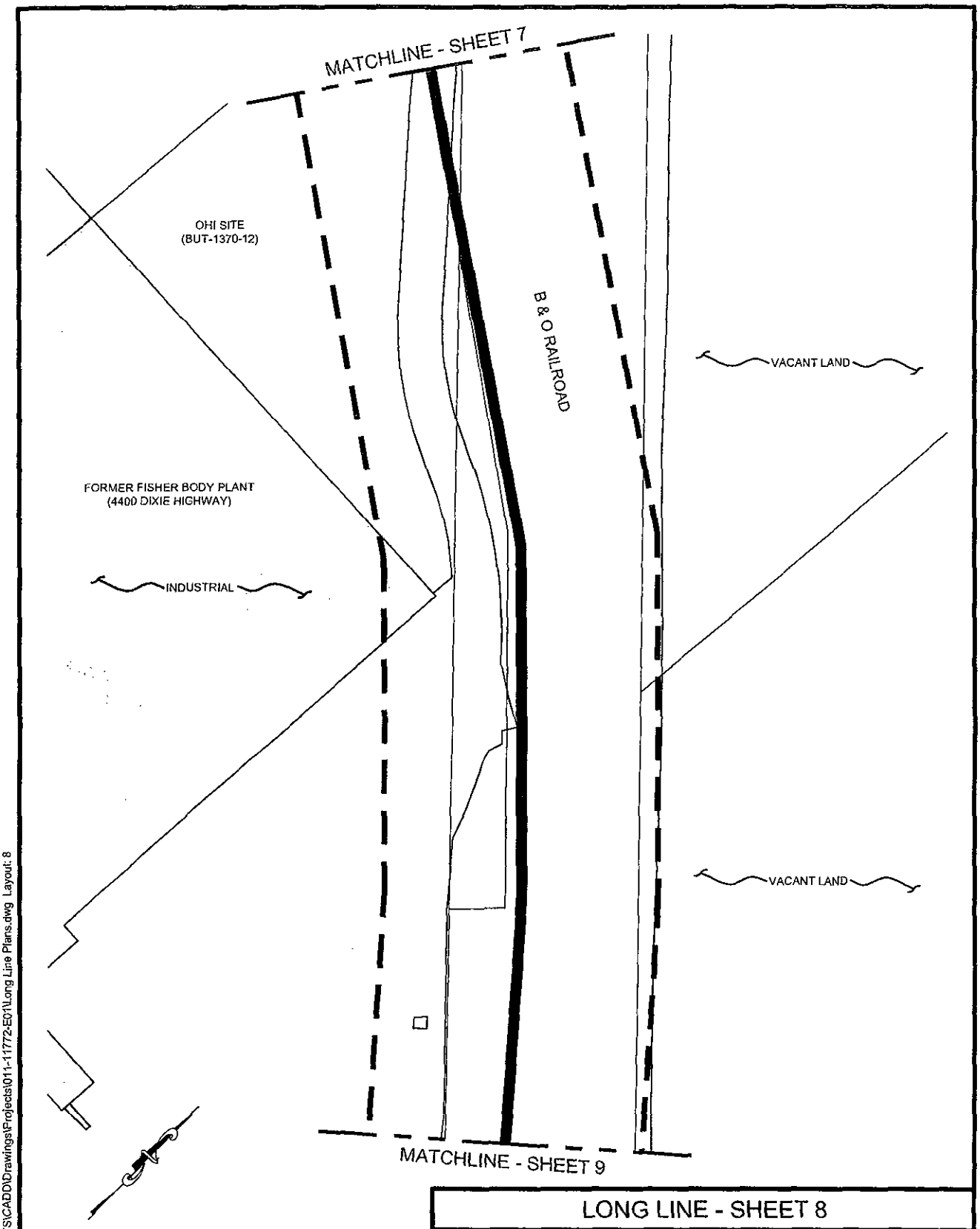
LONG LINE - SHEET 7

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
Solutions To Build On
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-6-2010 @ 11:36am By: tmckelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E01\Long Line Plans.dwg Layout: 7



LEGEND

PROPOSED ROUTE

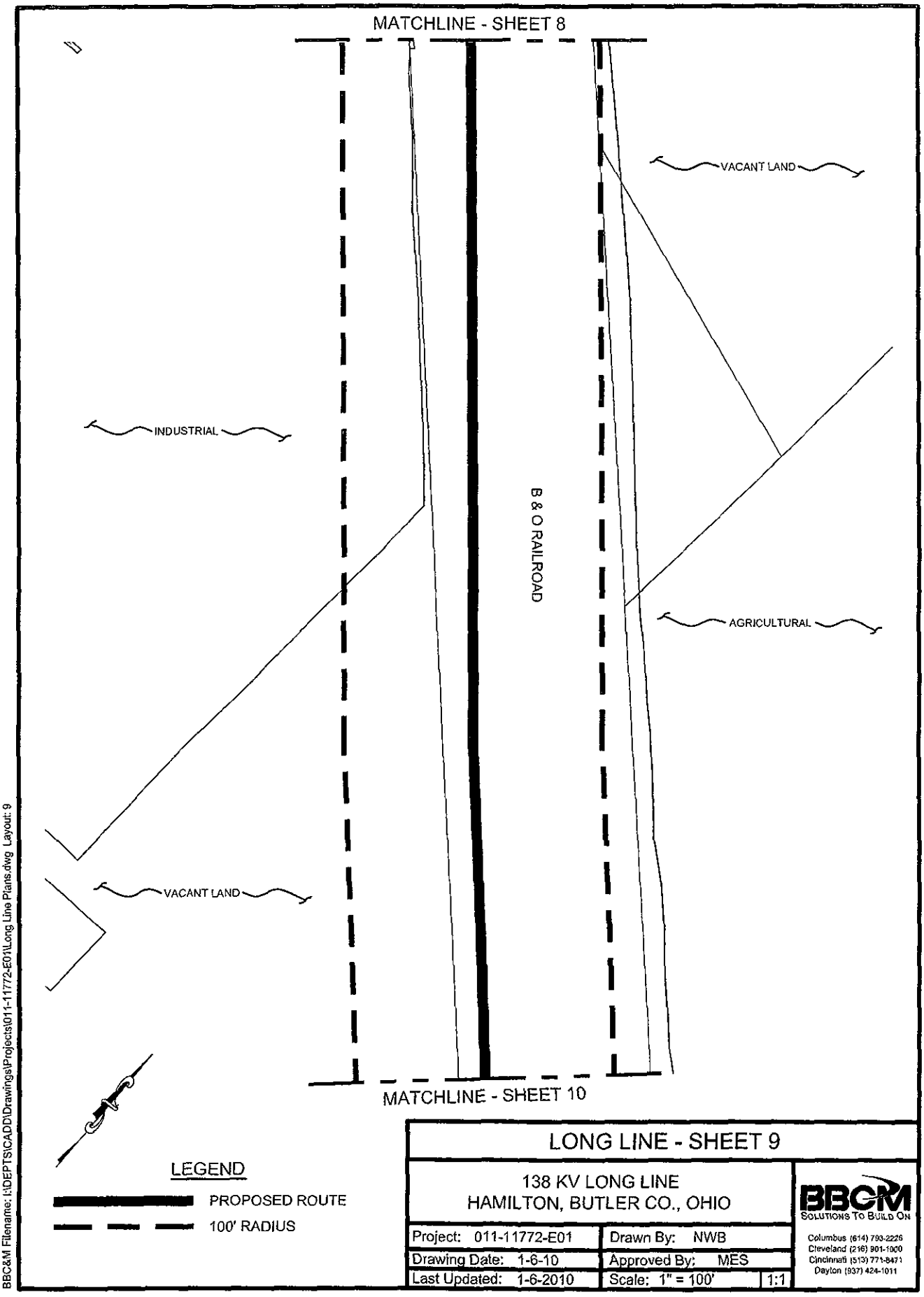
100' RADIUS

LONG LINE - SHEET 8

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011



LONG LINE - SHEET 9

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-6-2010 @ 11:37am By: tmckelvey
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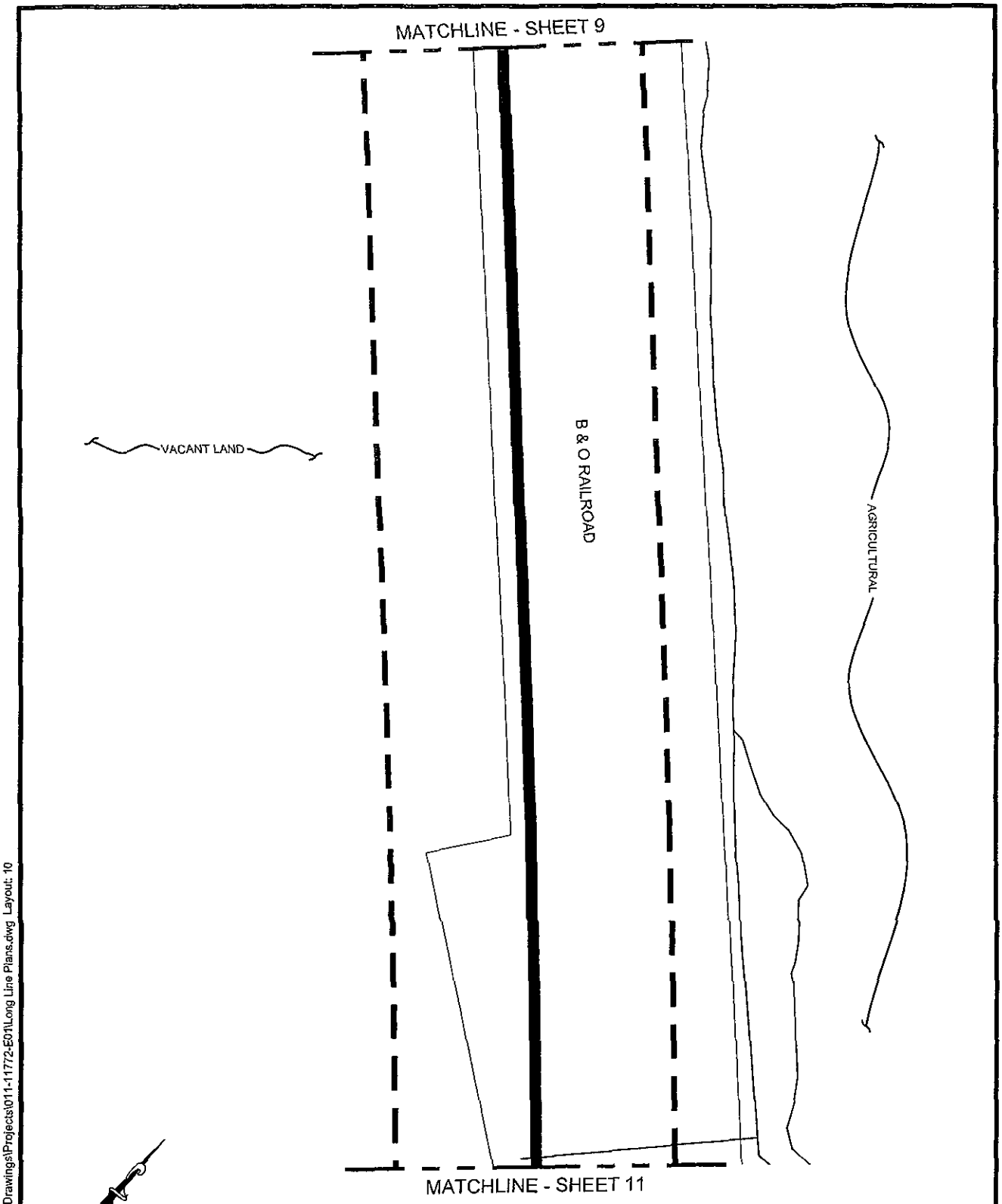

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 10

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB
Drawing Date: 1-6-10	Approved By: MES
Last Updated: 1-6-2010	Scale: 1" = 100' 1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2228
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-6-2010 @ 11:37am By: lmckelvey
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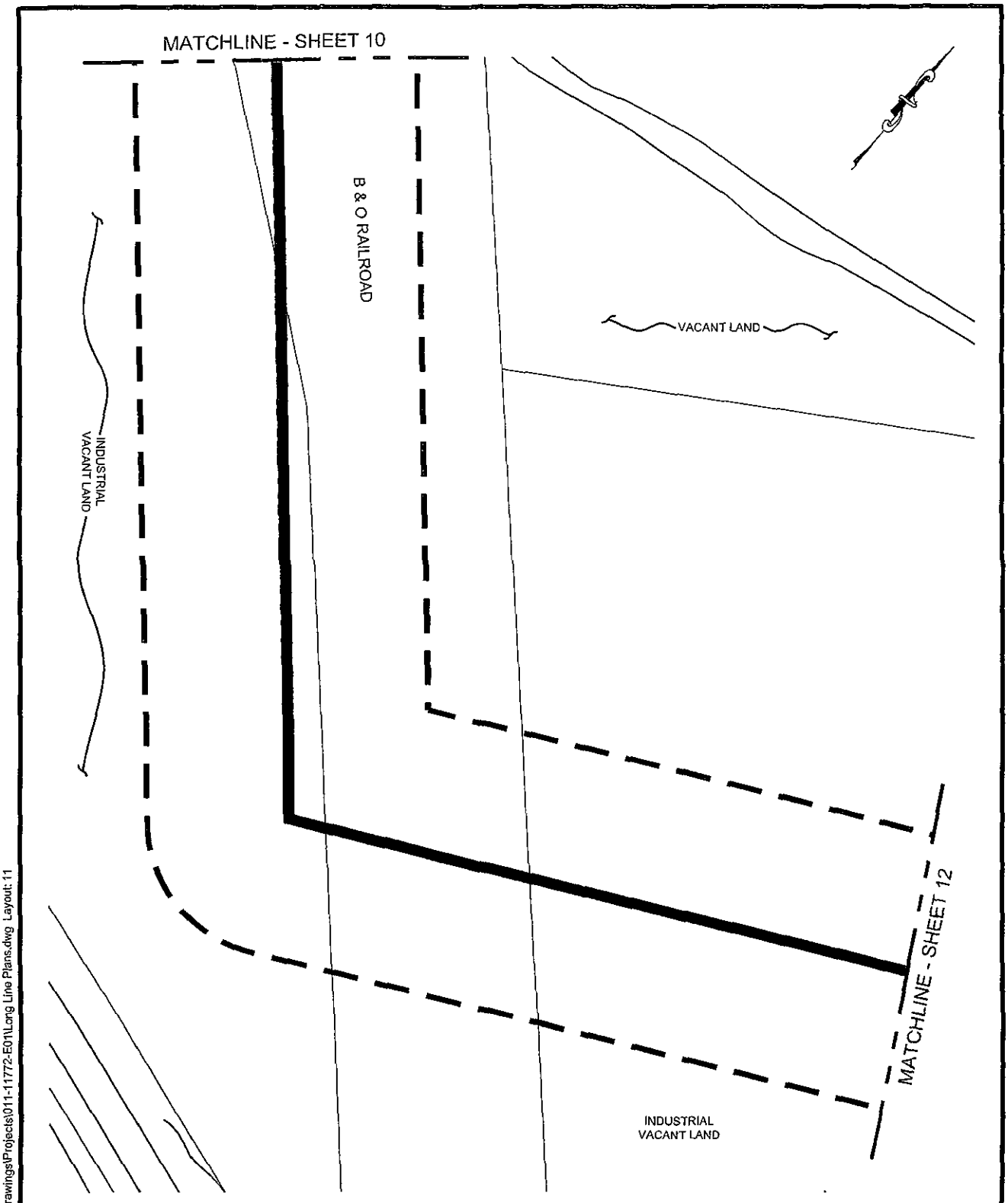

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 11

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
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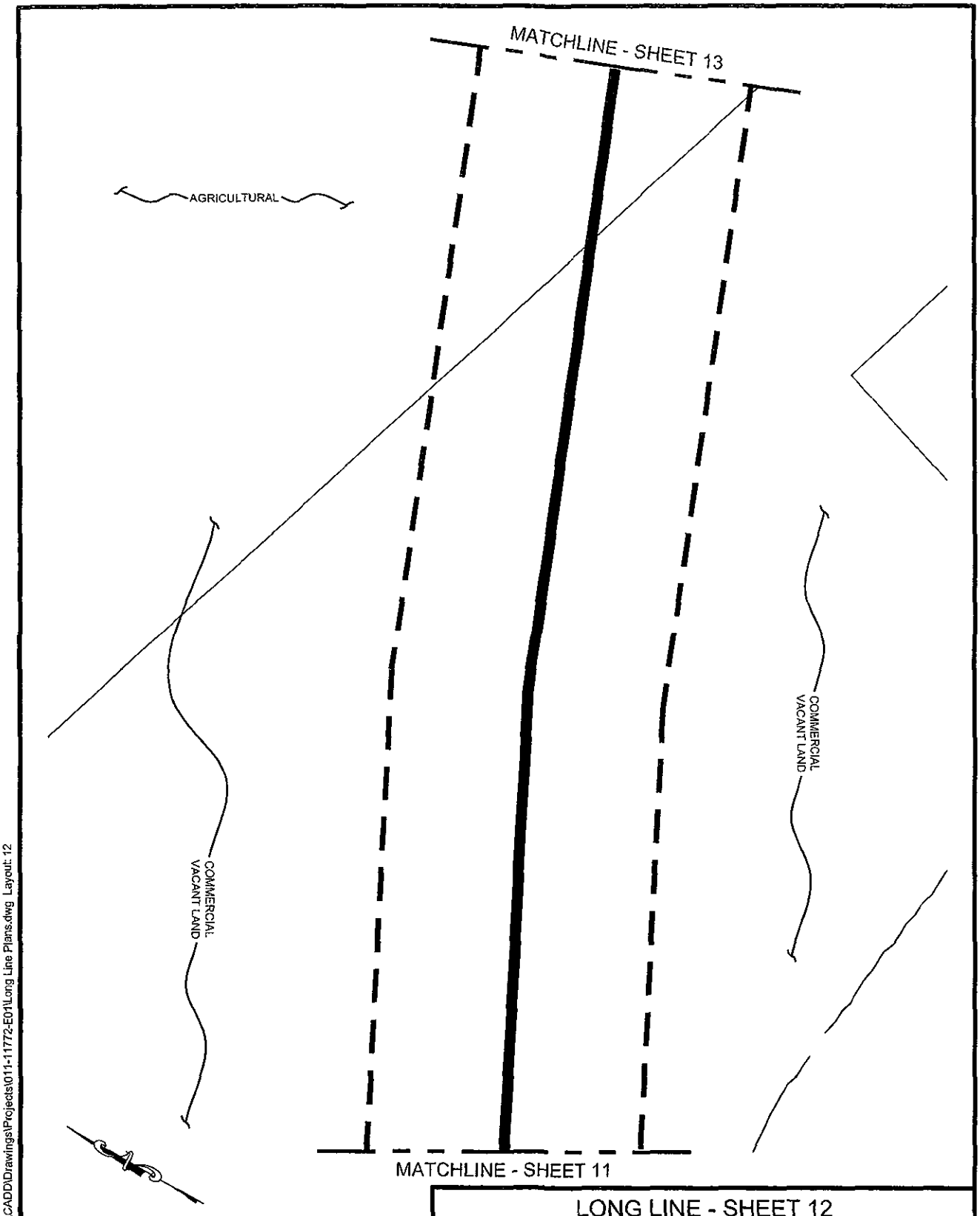


LEGEND

PROPOSED ROUTE

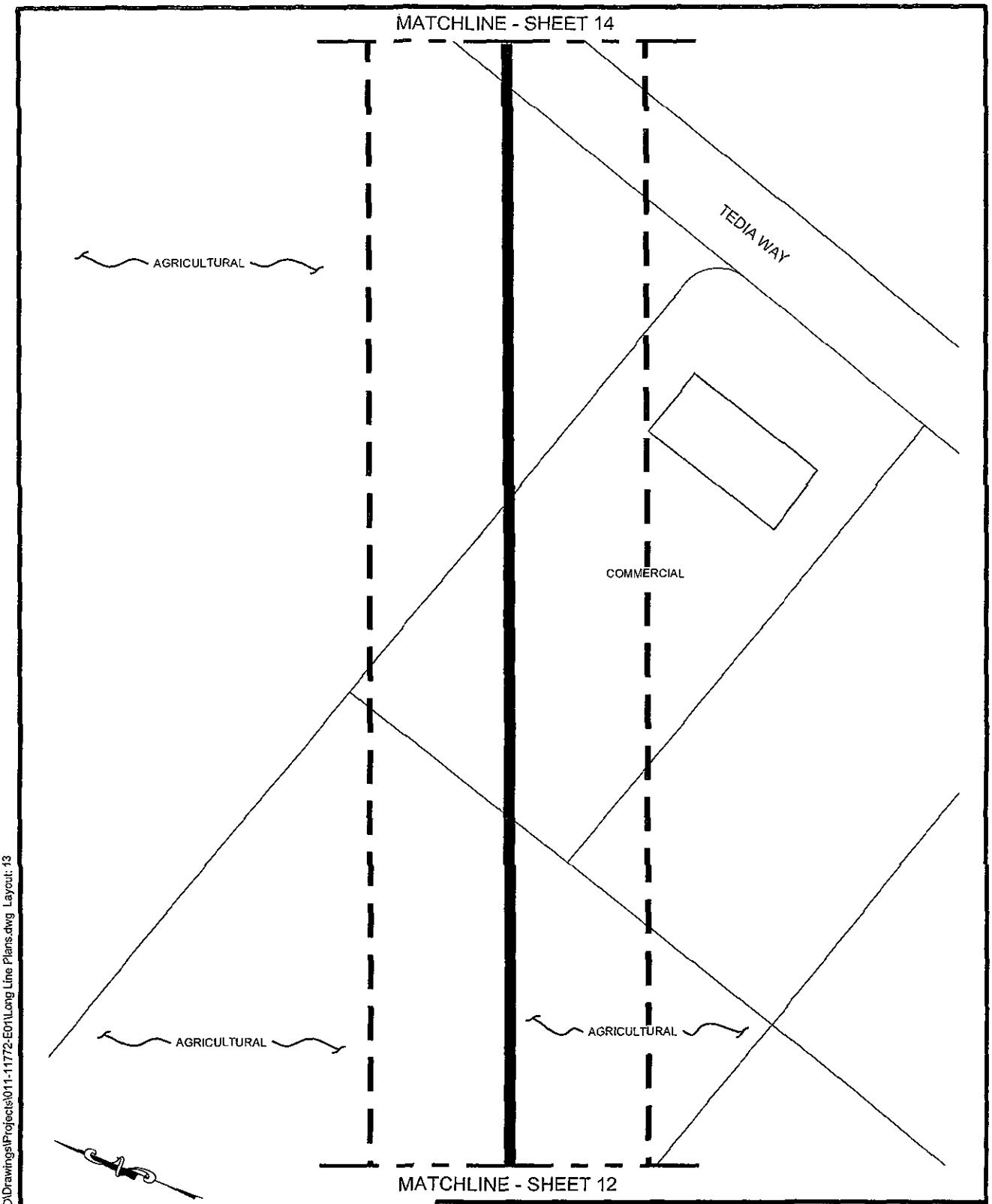
100' RADIUS

LONG LINE - SHEET 12

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: EDV	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011



LEGEND

PROPOSED ROUTE

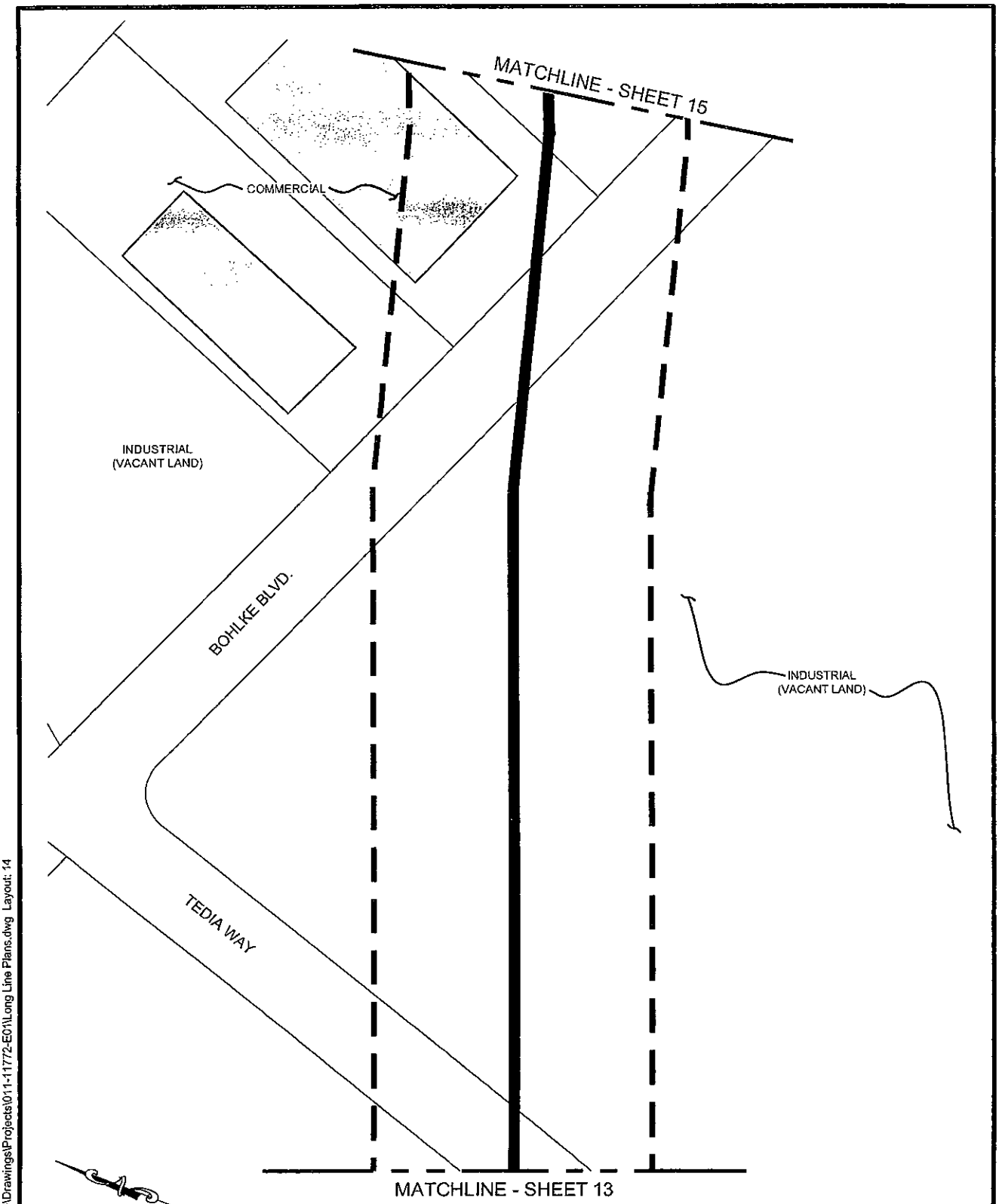
100' RADIUS

LONG LINE - SHEET 13

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 961-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011



LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 14

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-6-2010 @ 11:39am By: lmckelvey
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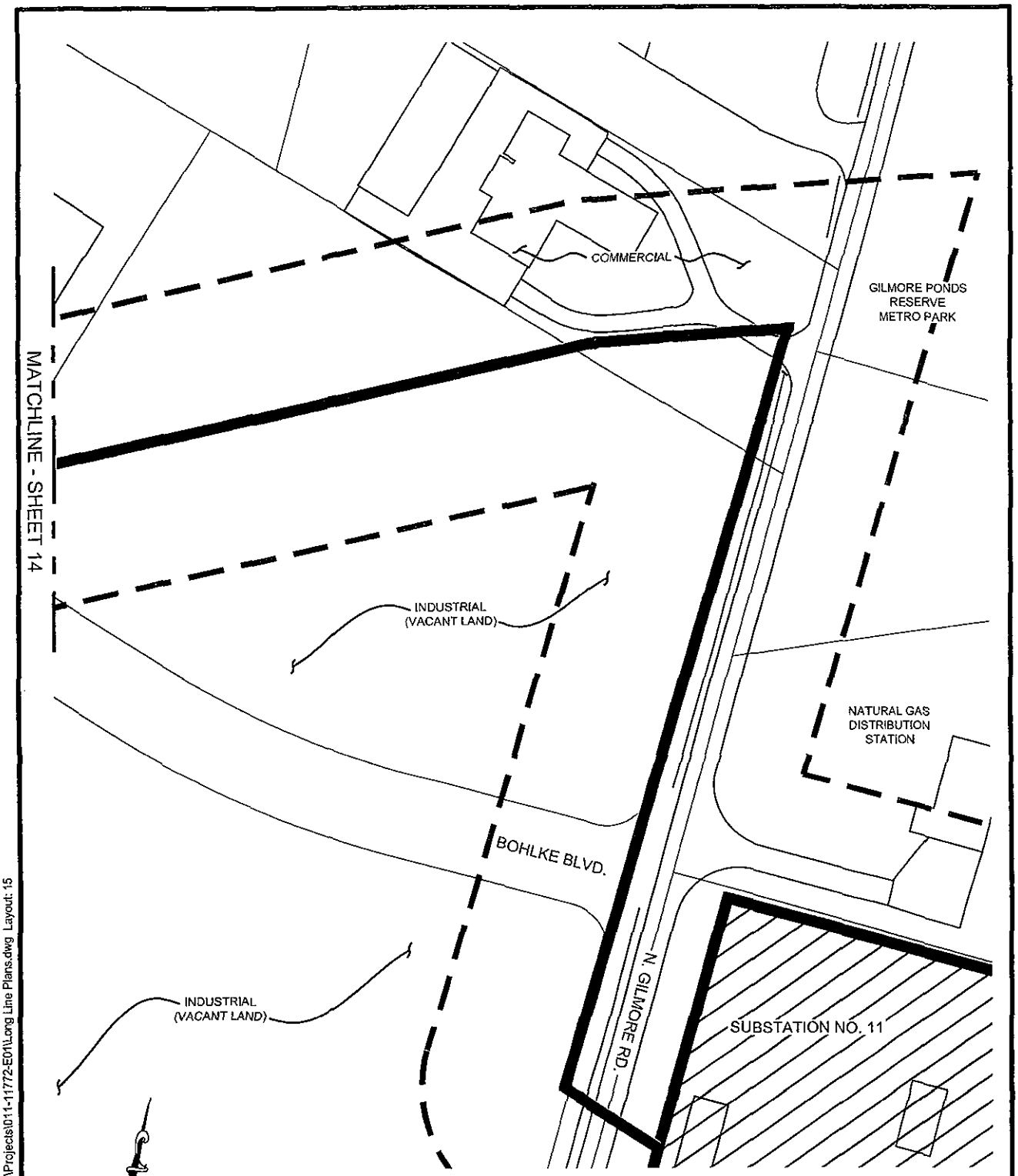

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 15

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-7-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: - Aerial.tif
Xrefs:
File Last Updated: Jan 07, 2010
Plot Info: 1-12-2010 @ 9:30am By: tmckelvey
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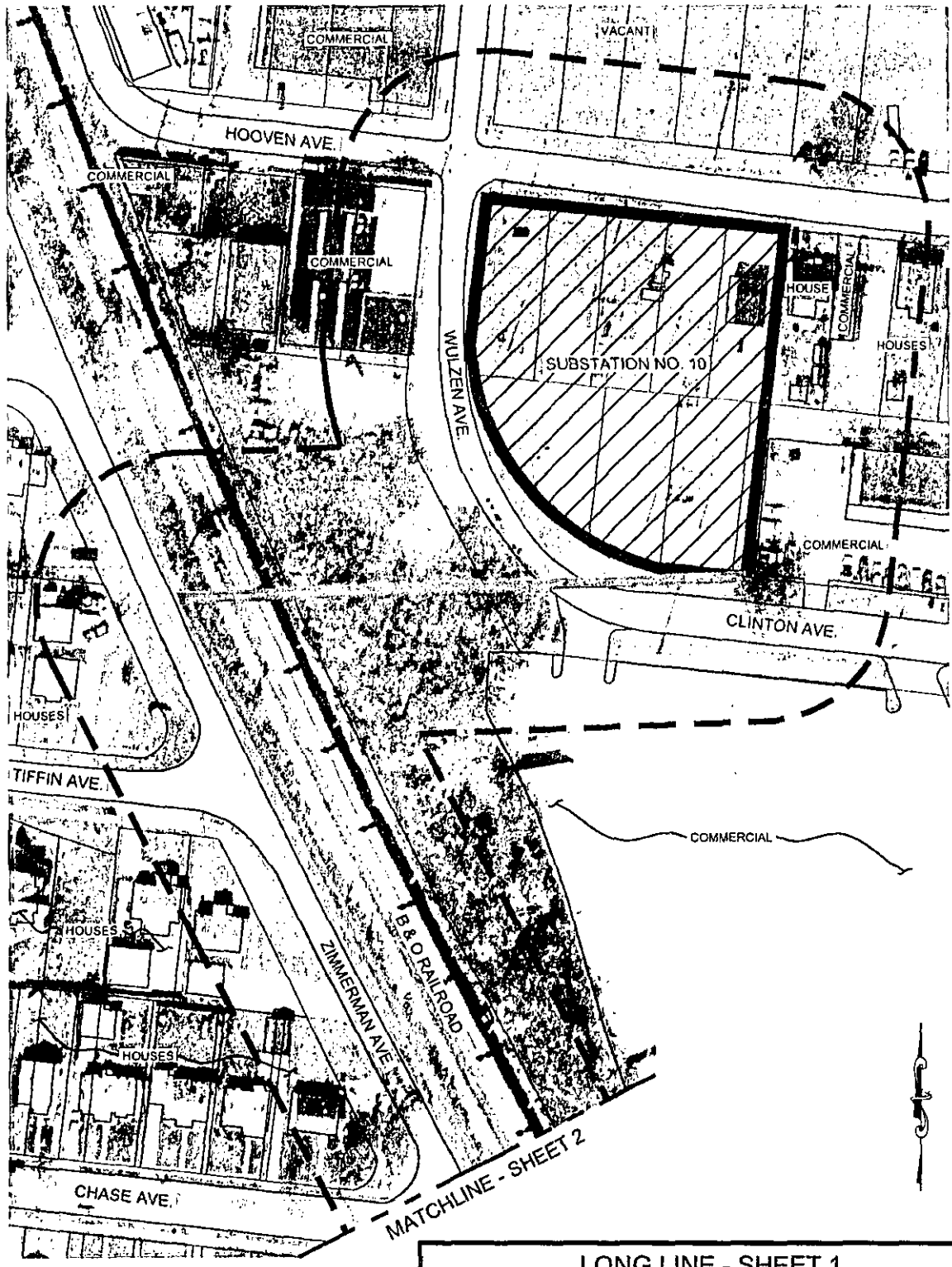

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 1

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 05, 2010
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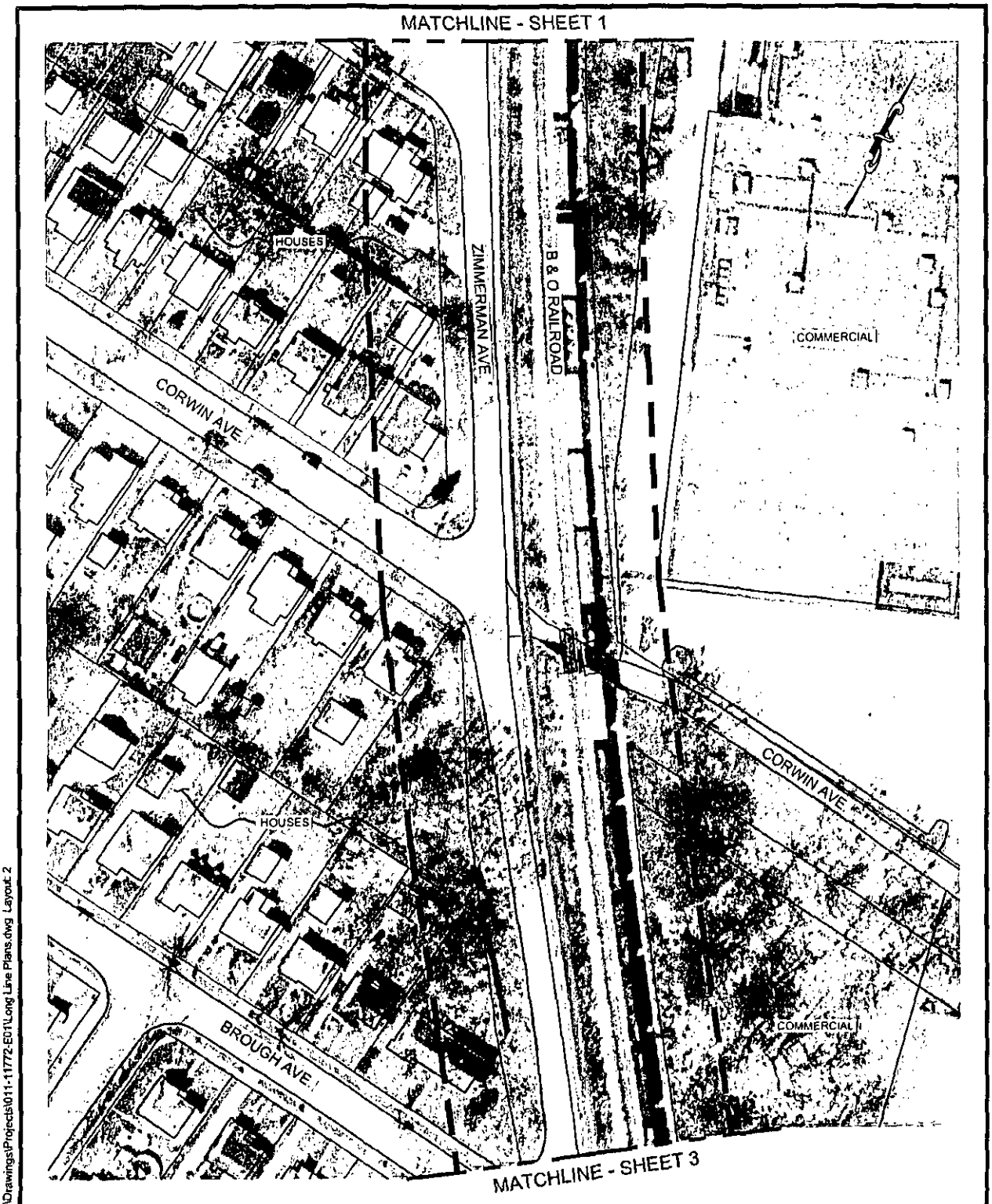

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 2

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB
Drawing Date: 1-6-10	Approved By: MES
Last Updated: 1-6-2010	Scale: 1" = 100' 1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: *.Aerial.tif
Xref's:
File Last Updated: Jan 06, 2010
Plot Info: 1-7-2010 @ 9:13am By: kmckelvey
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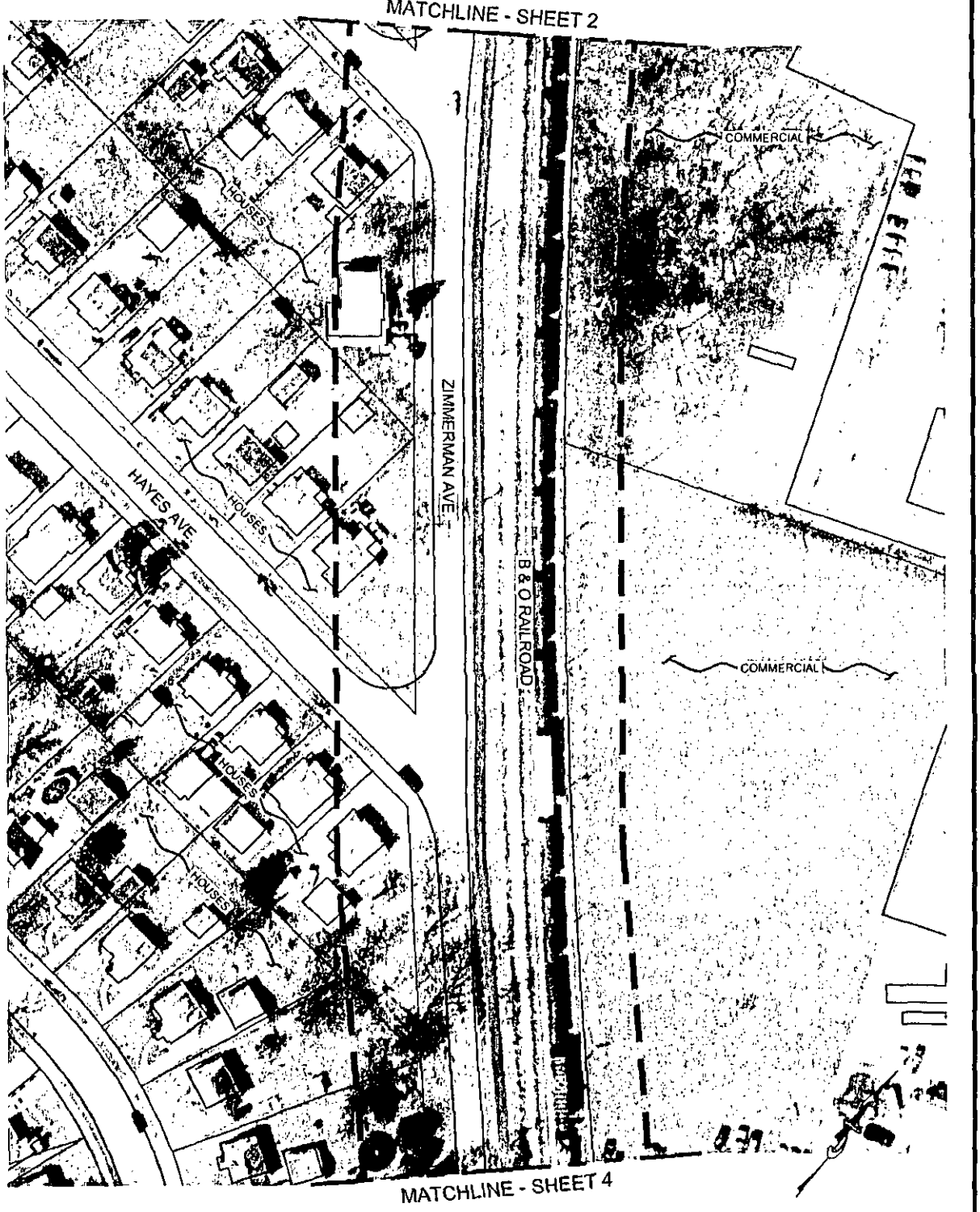

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 3

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010 @ 9:14am By: lmckelvey
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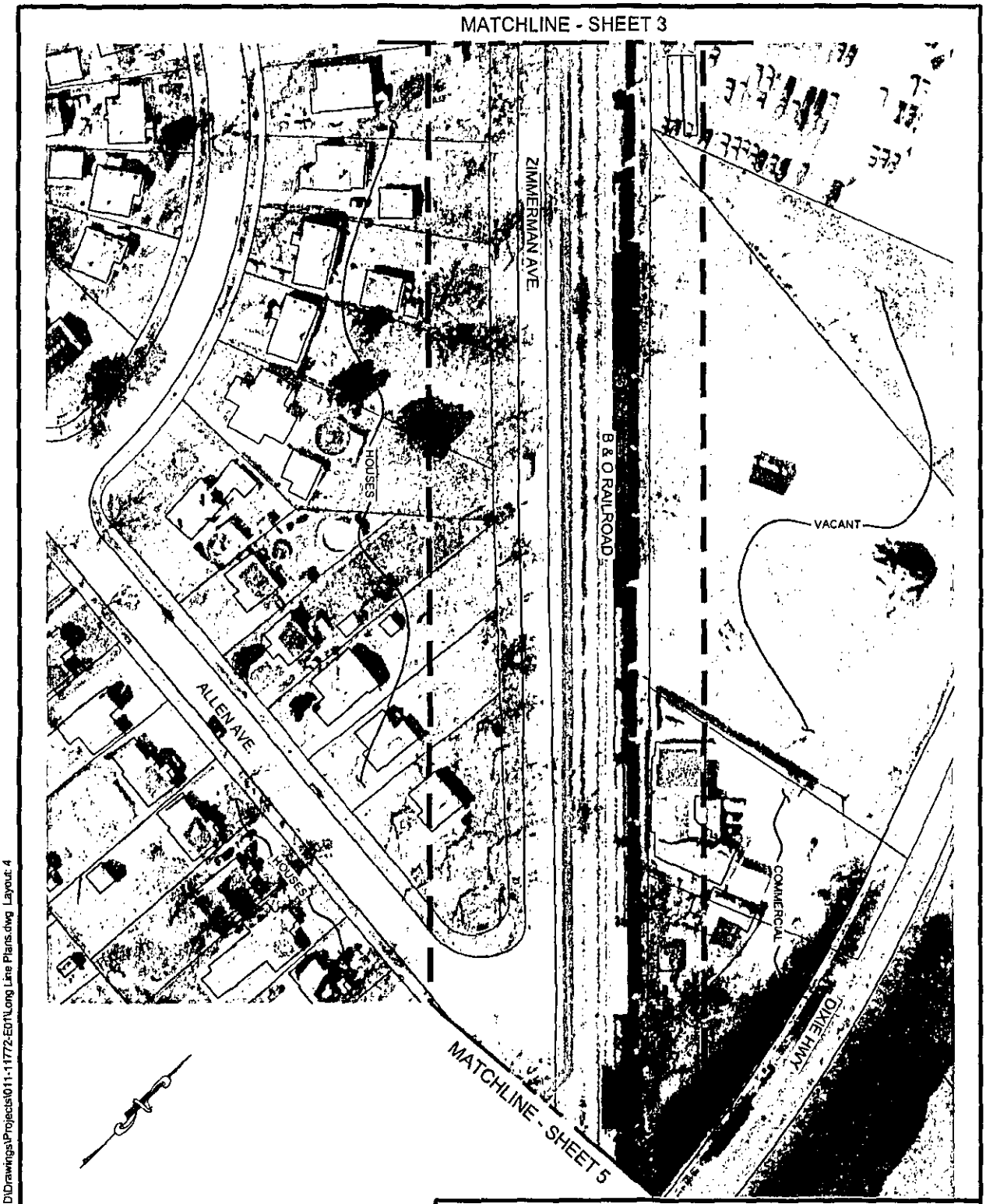

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 4

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: -Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-7-2010 @ 9:16am By: lmckelvey
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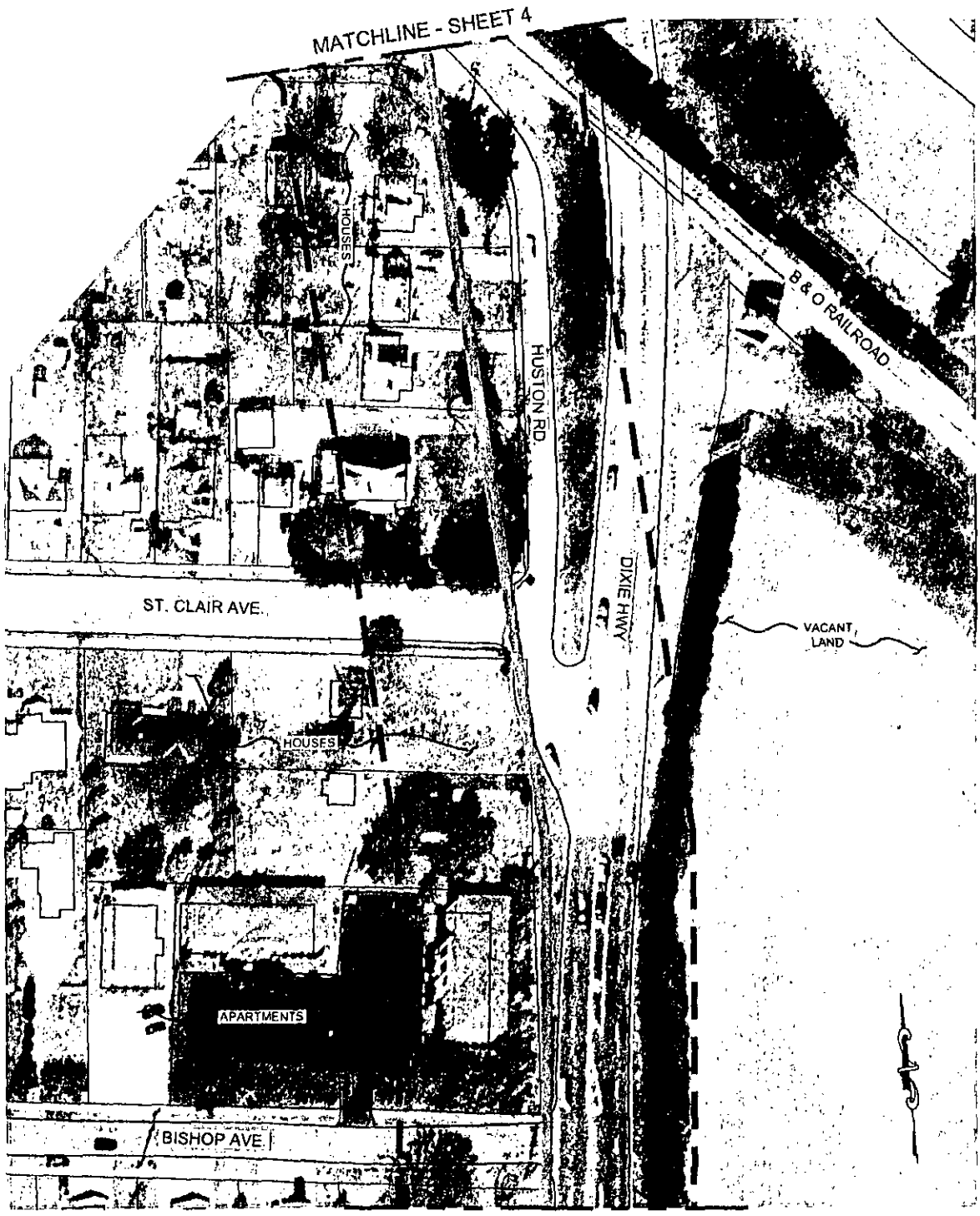

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 5

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBC&M
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-6471
Dayton (937) 424-1011

Images: - Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
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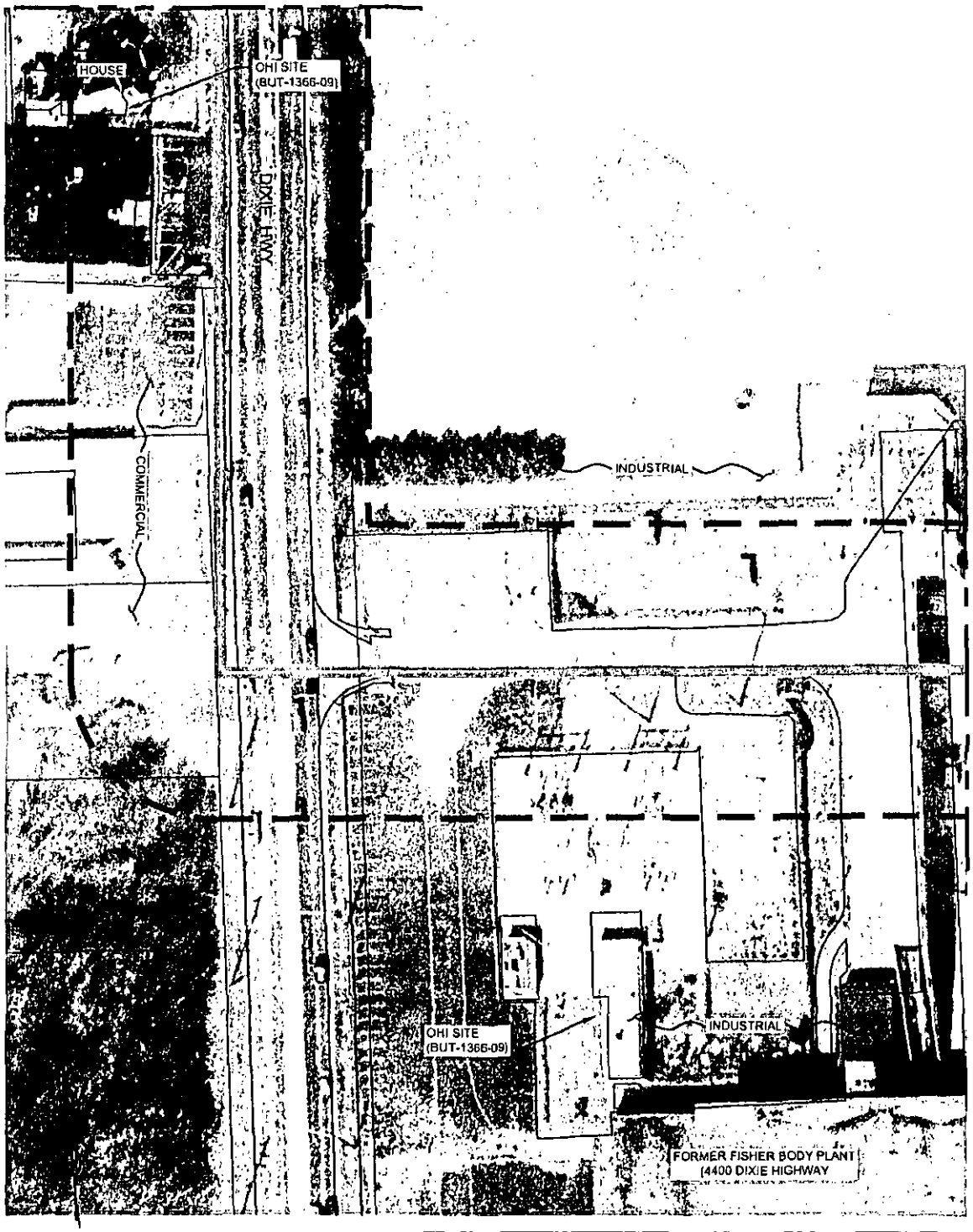

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 6

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
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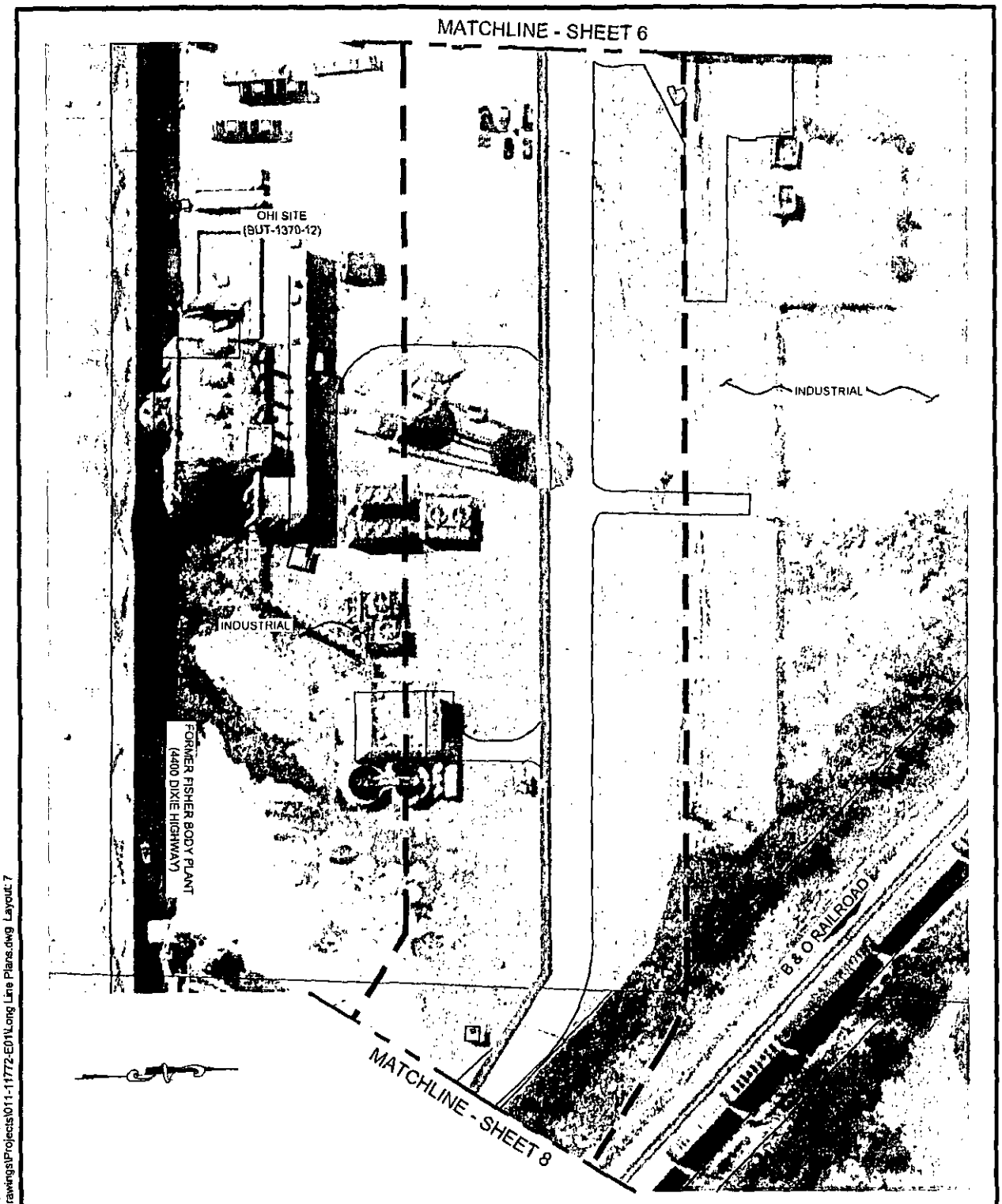

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 7

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 783-2226
Cleveland (216) 901-1060
Cincinnati (513) 771-8431
Dayton (937) 424-1011

Images: - Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
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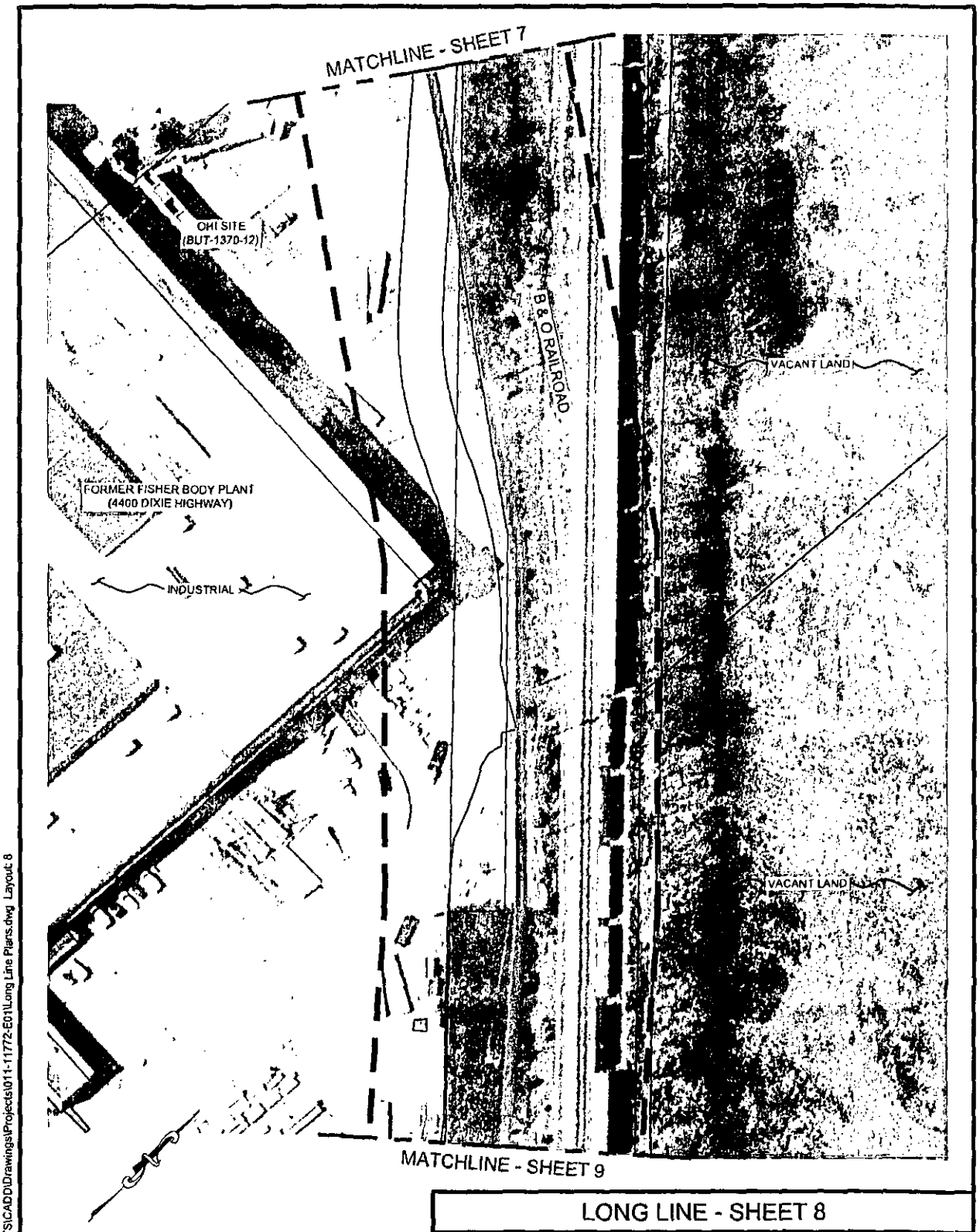

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 8

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-7-2010 @ 9:28am By: lmckelvey
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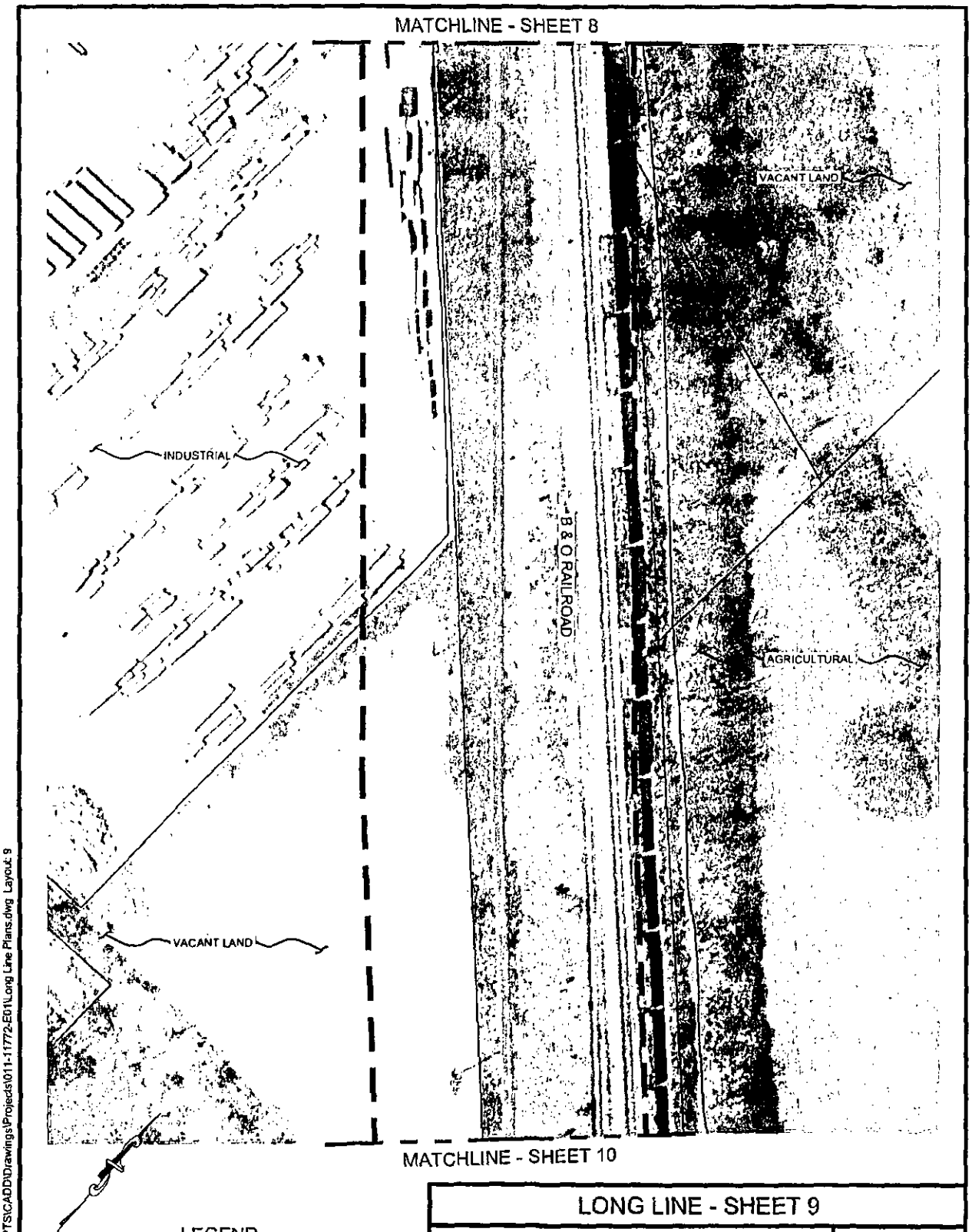


LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 9

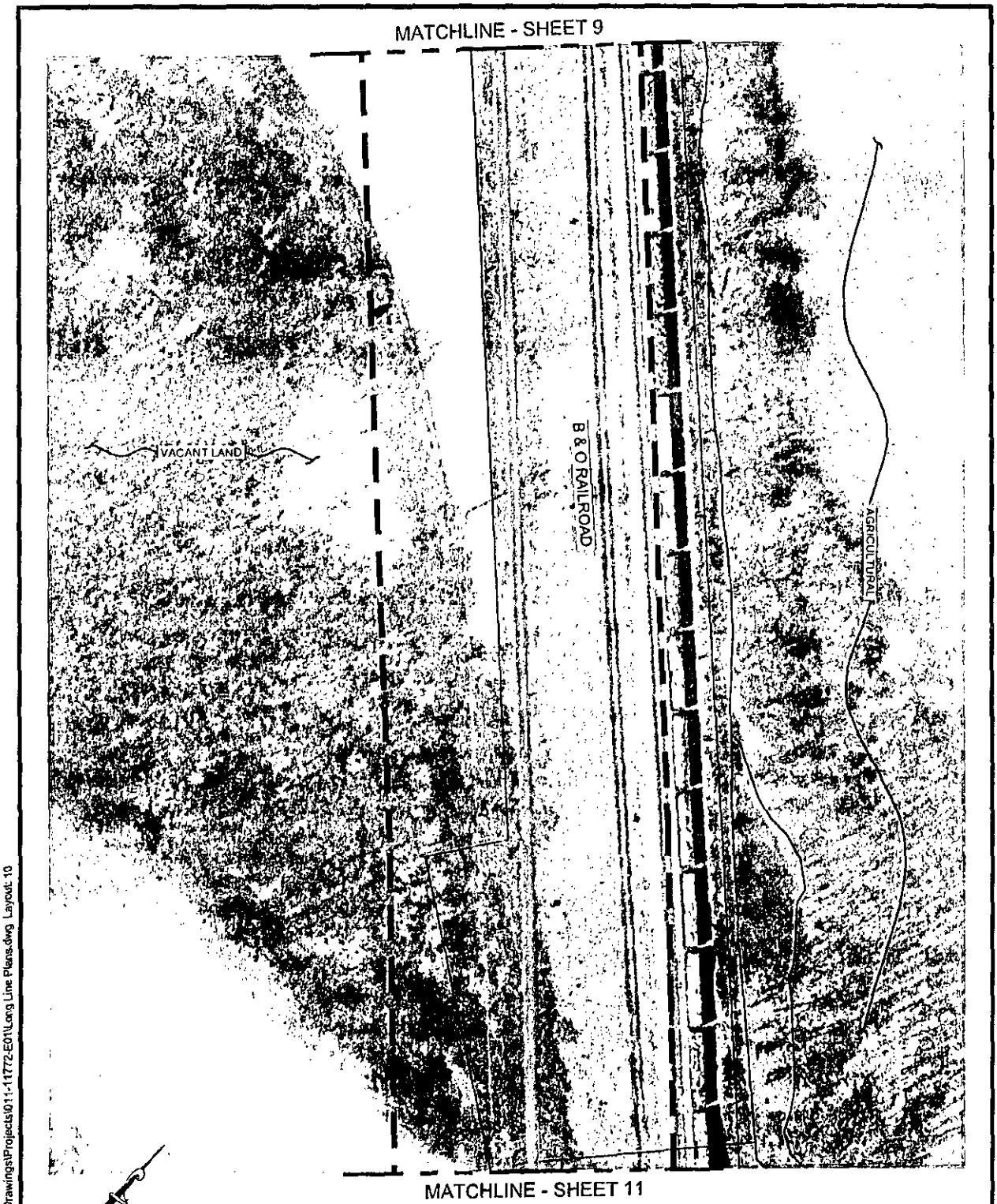
138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: -Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-6-2010 @ 12:24pm By: lmckelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E01\Long Line Plans.dwg Layout: 9



LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 10

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8431
Dayton (937) 424-1011

Images: - Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
Plot Info: 1-6-2010 @ 12:26pm By: tmckelvey
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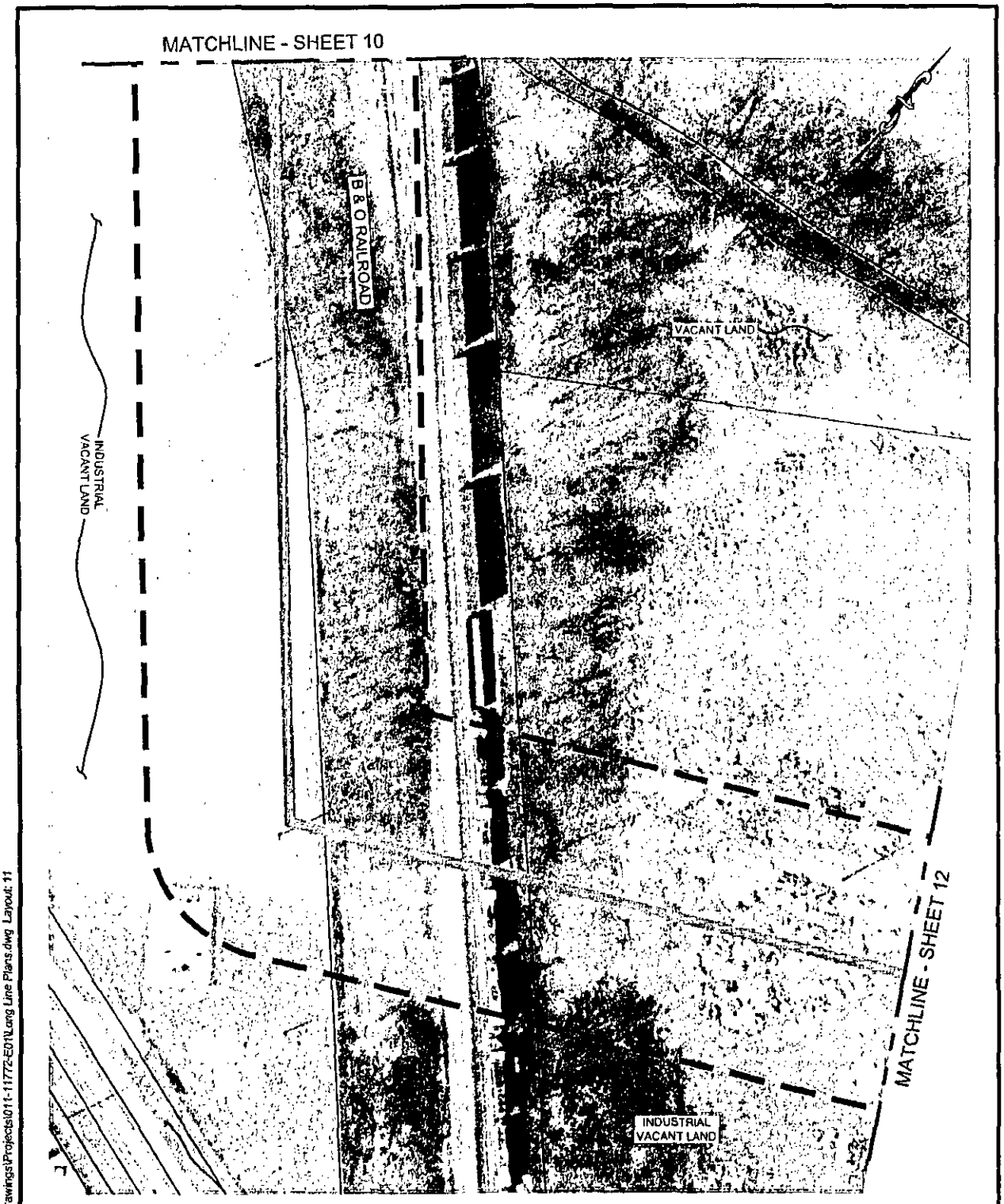

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 11

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 799-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
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Plot Info: 1-6-2010 @ 12:27pm By: lmckelvey
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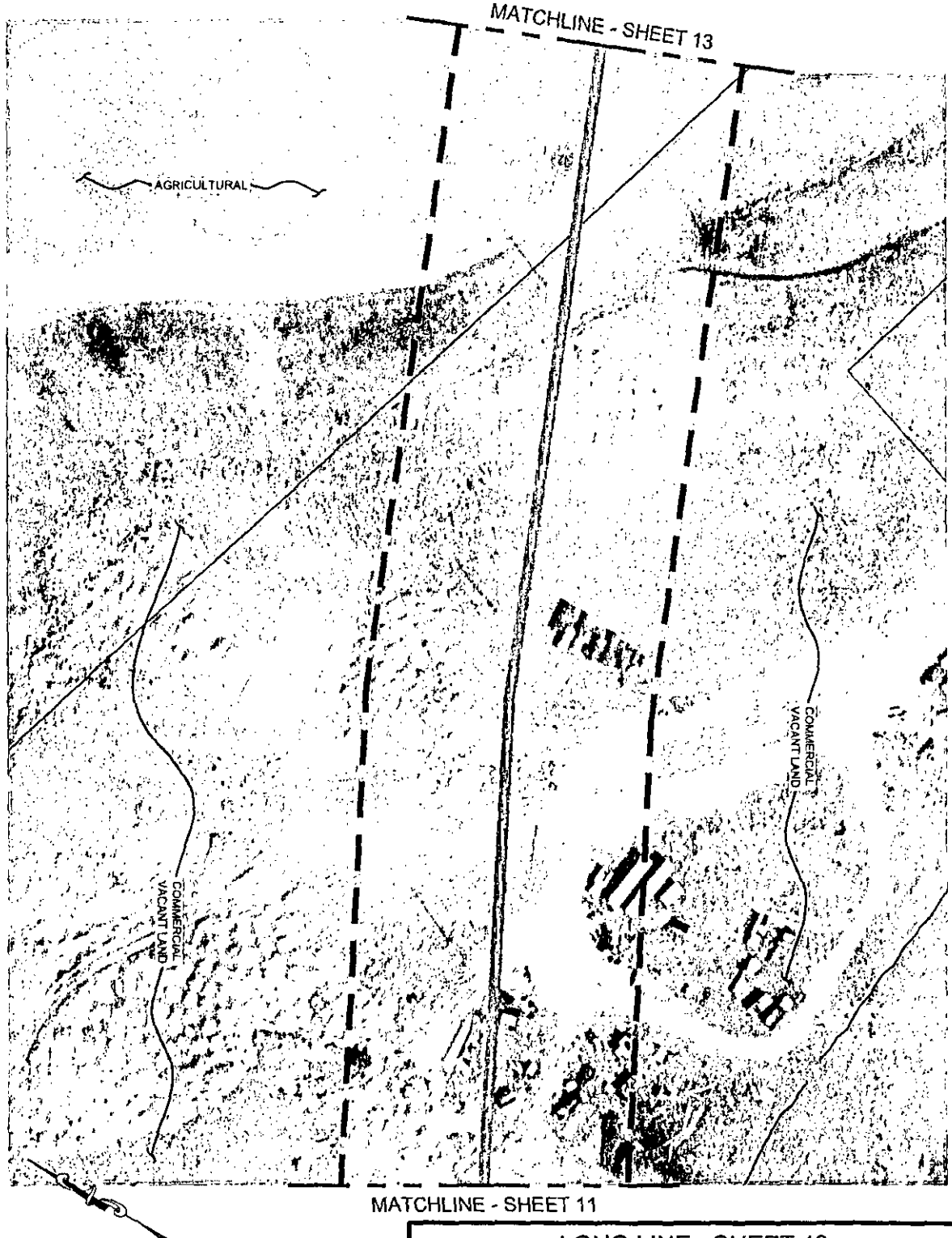

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 12

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: EDV	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-6471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
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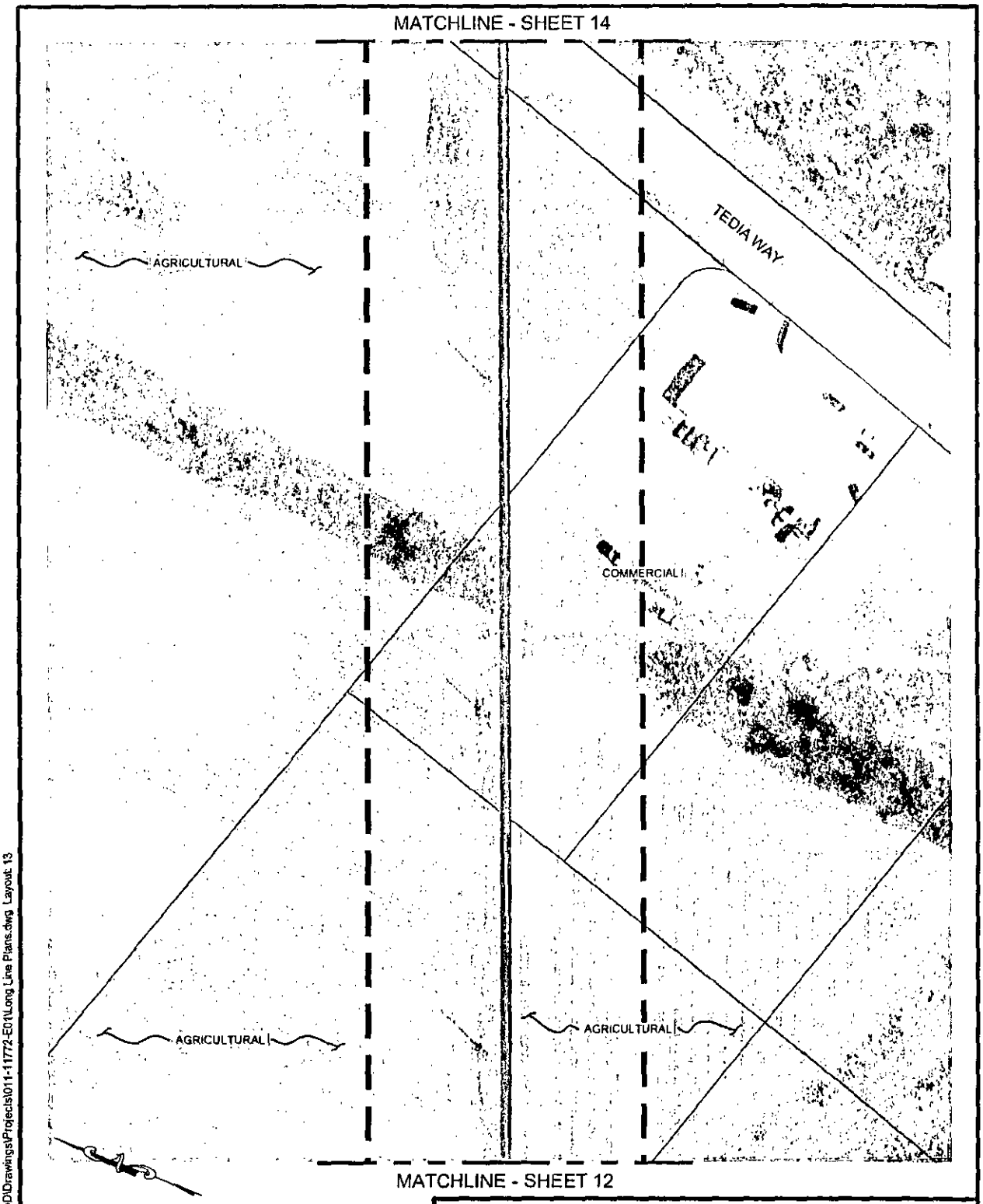

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 13

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
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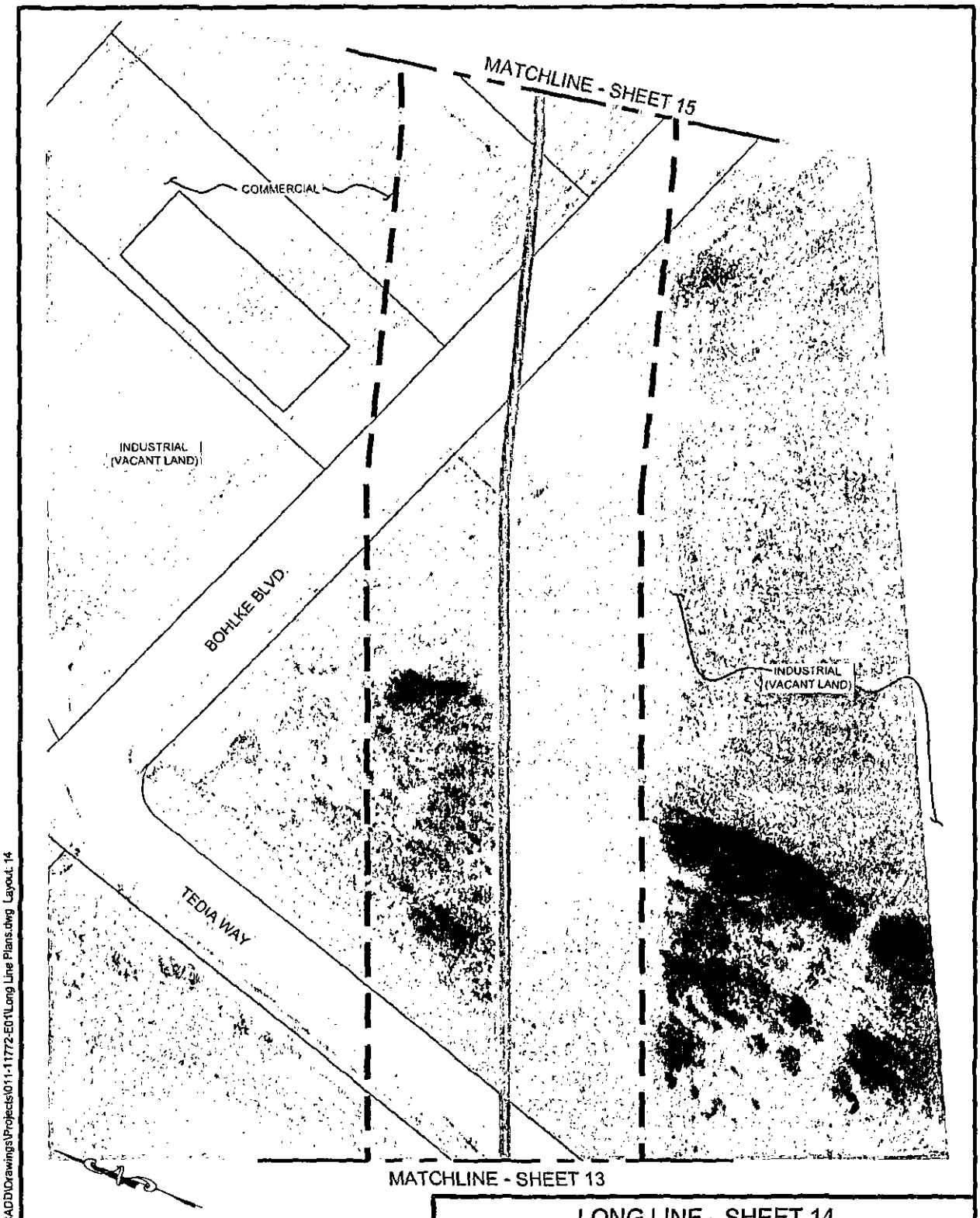

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 14

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-6-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
File Last Updated: Jan 06, 2010
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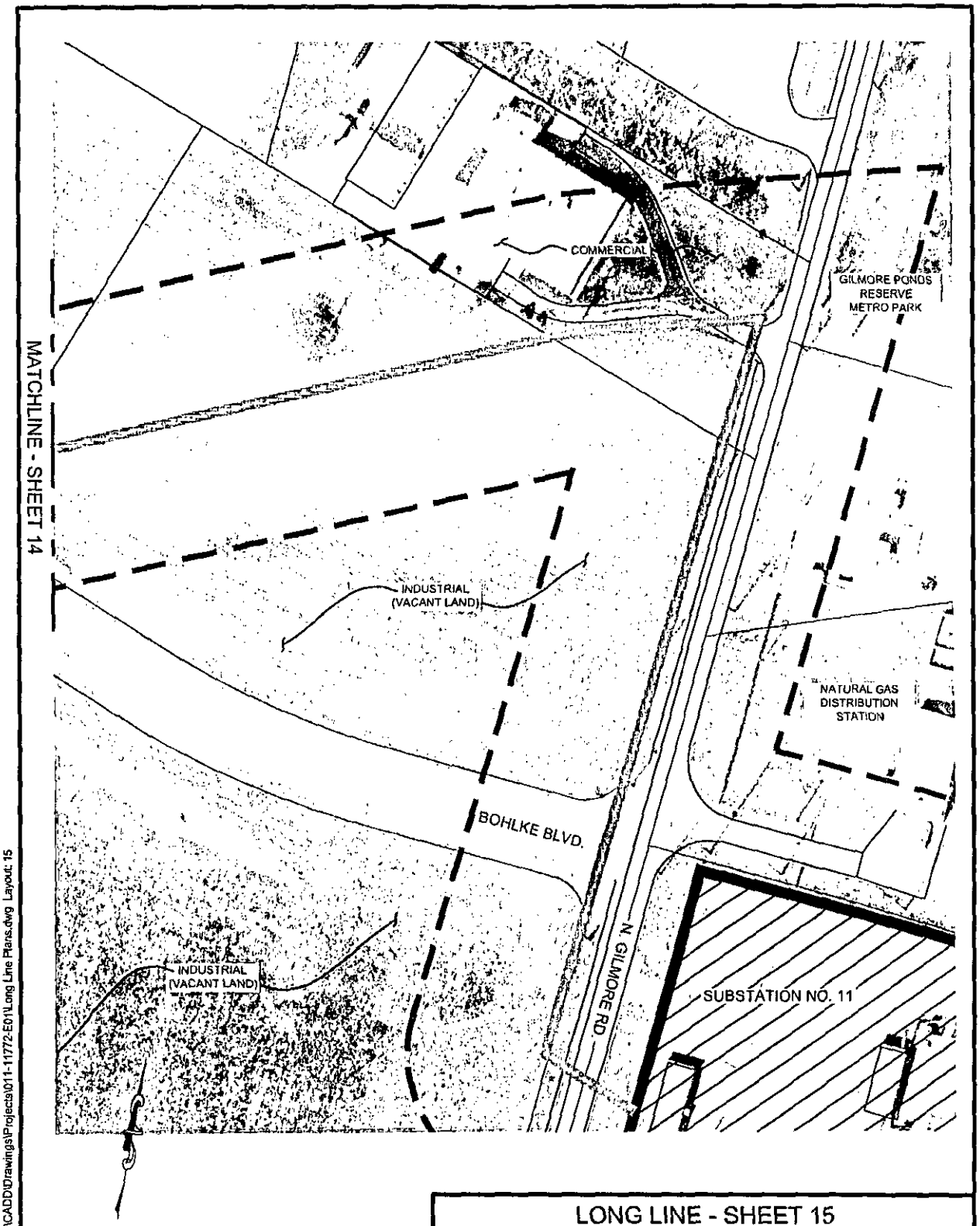

LEGEND

PROPOSED ROUTE

100' RADIUS

LONG LINE - SHEET 15

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: NWB	
Drawing Date: 1-6-10	Approved By: MES	
Last Updated: 1-7-2010	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Aerial.tif
Xrefs:
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Plot Info: 1-12-2010 @ 9:27am By: tmckelvey
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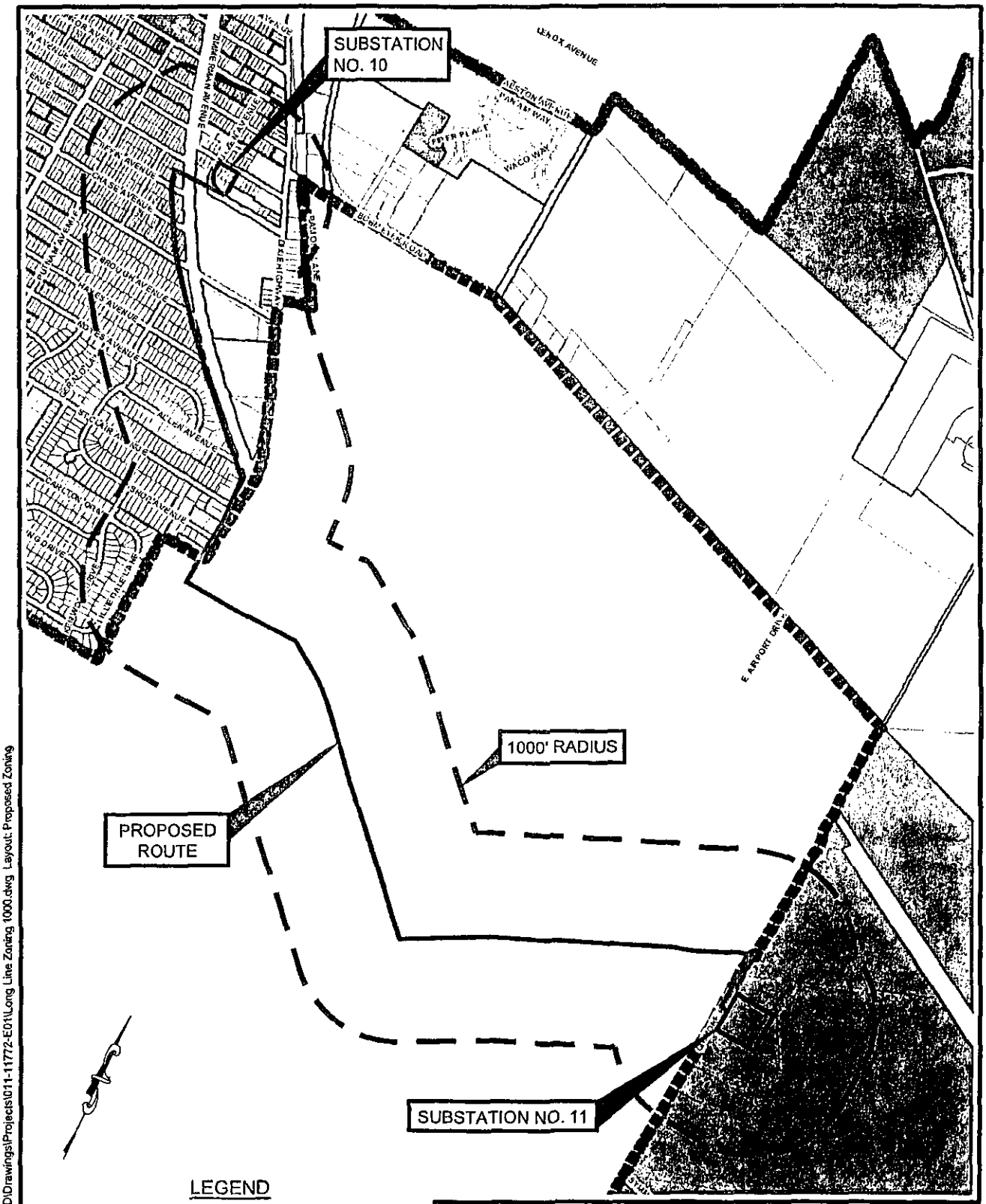
APPENDIX B



ZONING PLAN WITH 1000' RADIUS

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

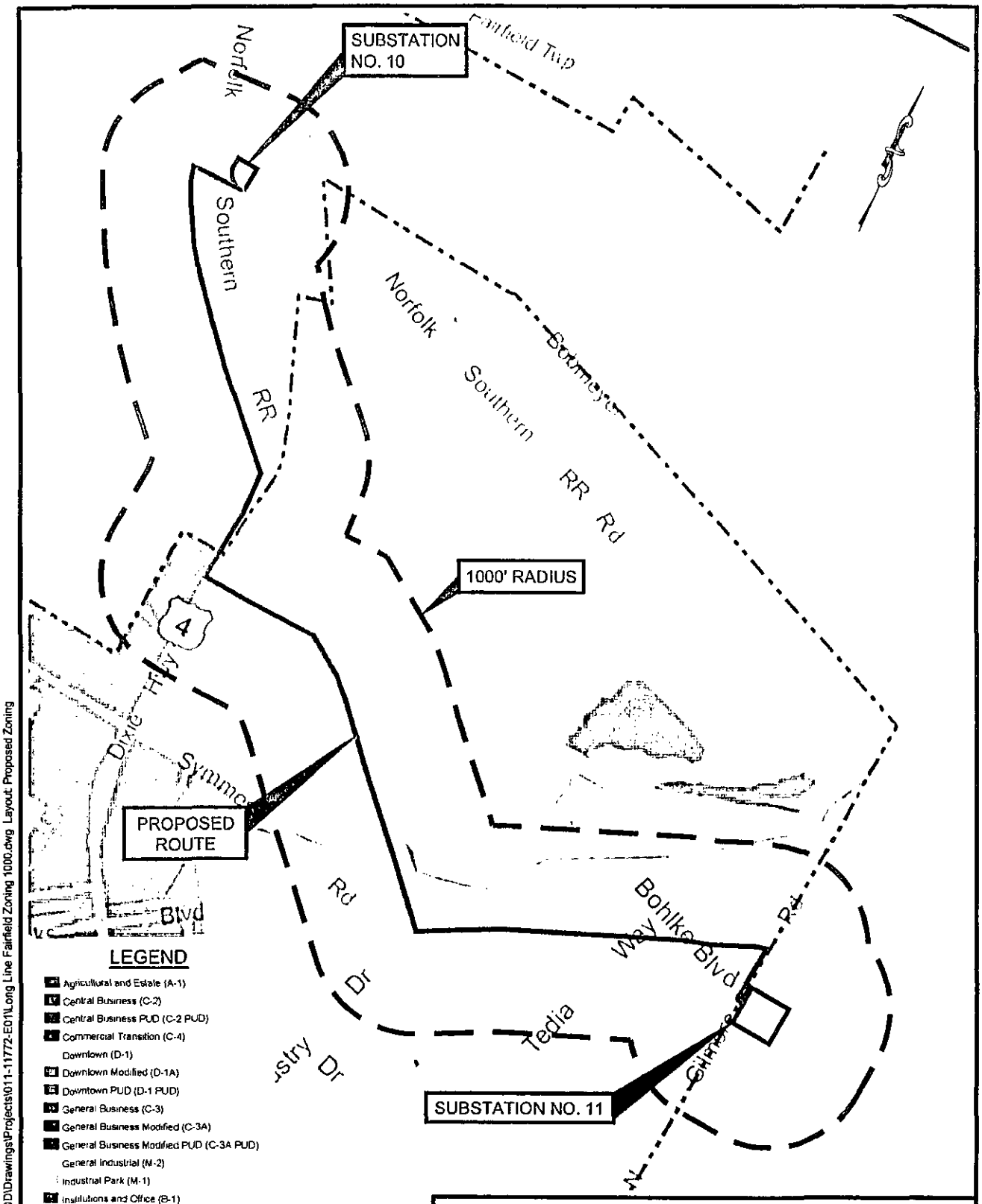
Project: 011-11772-E01	Drawn By: TJM
Drawing Date: 1-11-2010	Approved By: EPS
Last Updated: 1-11-2010	Scale: 1" = 1/4 MILE 1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1911

Images: ~Zoning map.jpg
Xrefs:
File Last Updated: Jan 11, 2010
Plot Info: 1-11-2010 @ 9:48am By: tmckelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E01\Long Line Zoning 1000.dwg Layout: Proposed Zoning

CITY OF HAMILTON USE DISTRICTS

AG	Agricultural District
B-1	Neighborhood Business District
B-2	Community Business District
B-3	Central Business District
B-4	Urban Business District
BPD	Business Planned Development District
DSSD	Downtown Support Sub District
Historic District	Historic District
HSCSD	High Street Corridor Sub District
I-1	Limited Industrial District
I-2	Industrial District
IPD	Industrial Planned Development District
OPD	Office Planned Development District
R-0	Multi-Family Residence and Office District
R-1	Single-Family Residential District
R-2	Single-Family Residential District
NIA	Neighborhood Initiation Area
R-3	One to Four Family Residence District
R-4	Multi-Family Residence District
RPD	Residential Planned Development District



FAIRFIELD ZONING PLAN WITH 1000' RADIUS

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: TJM	
Drawing Date: 1-11-2010	Approved By: EPS	
Last Updated: 1-11-2010	Scale: 1" = 1/4 MILE	1:1

BBCM
SOLUTIONS TO BUILD ON

Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Zoning map.jpg ~ZoningFairfield.jpg
Xrefs:
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Images: -Transportation Map.JPG
Xrefs:
File Last Updated: Jan 11, 2010
Plot Info: 1-11-2010 @ 9:44am By: tmckelvey
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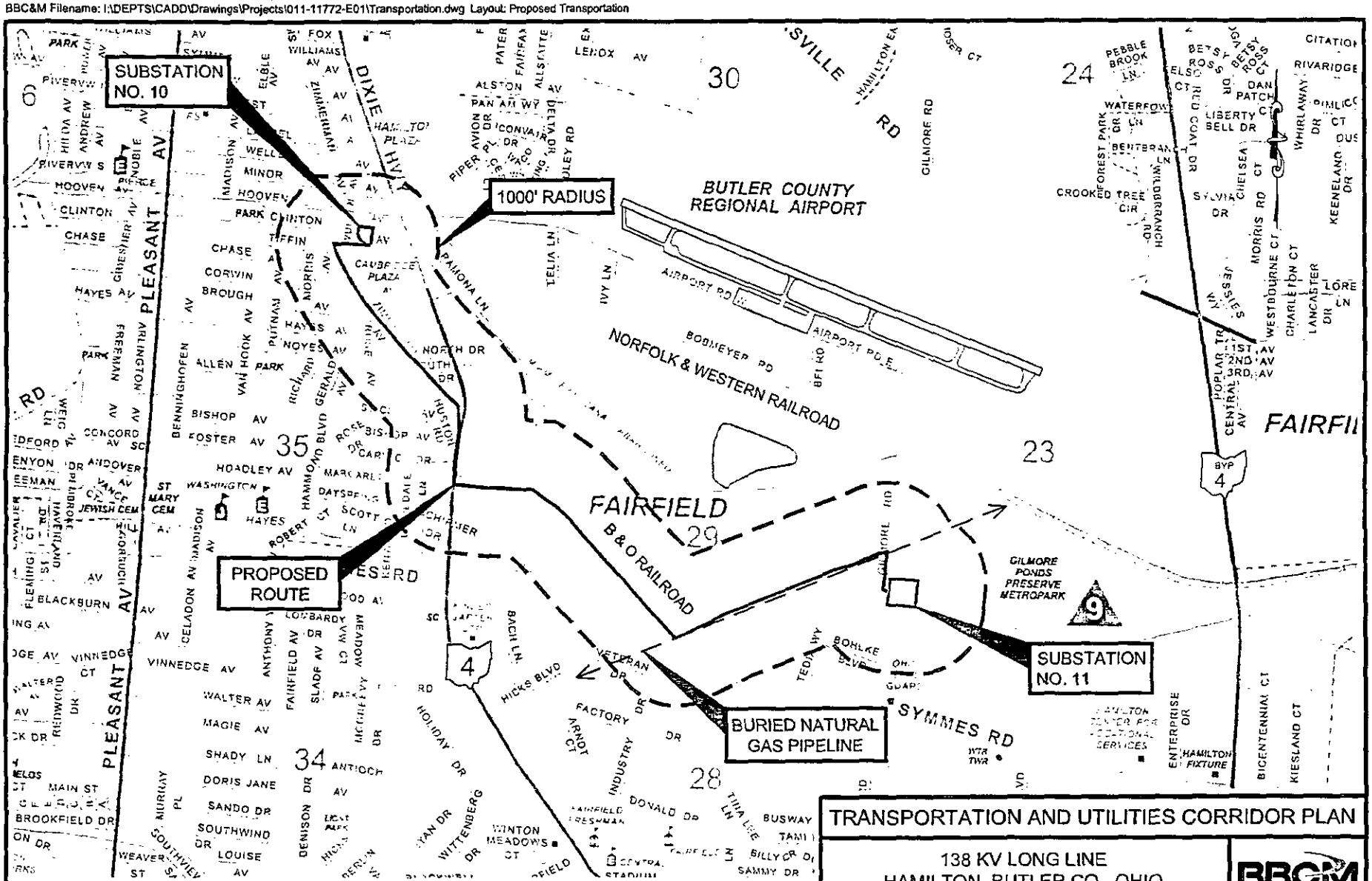

BASE MAP OBTAINED FROM BUTLER COUNTY ENGINEER'S OFFICE

TRANSPORTATION AND UTILITIES CORRIDOR PLAN

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: TJM
Drawing Date: 1-11-2010	Approved By: EPS
Last Updated: 1-11-2010	Scale: 1" = 2000' 1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
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Plot Info: 1-12-2010 @ 10:05am By: tmckelvey
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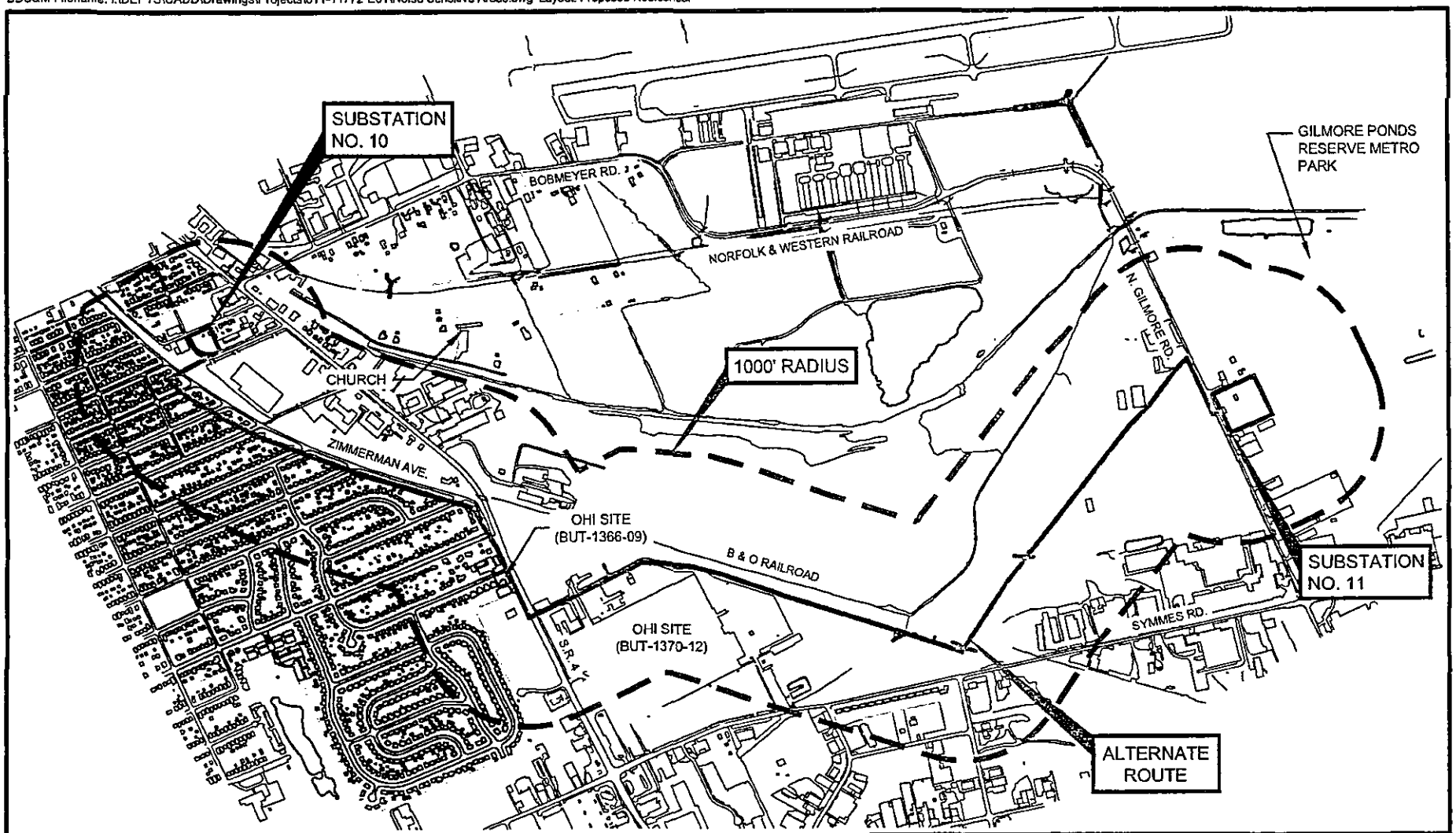


LEGEND

RESIDENTIAL AREAS

CHURCH

PARK AREAS

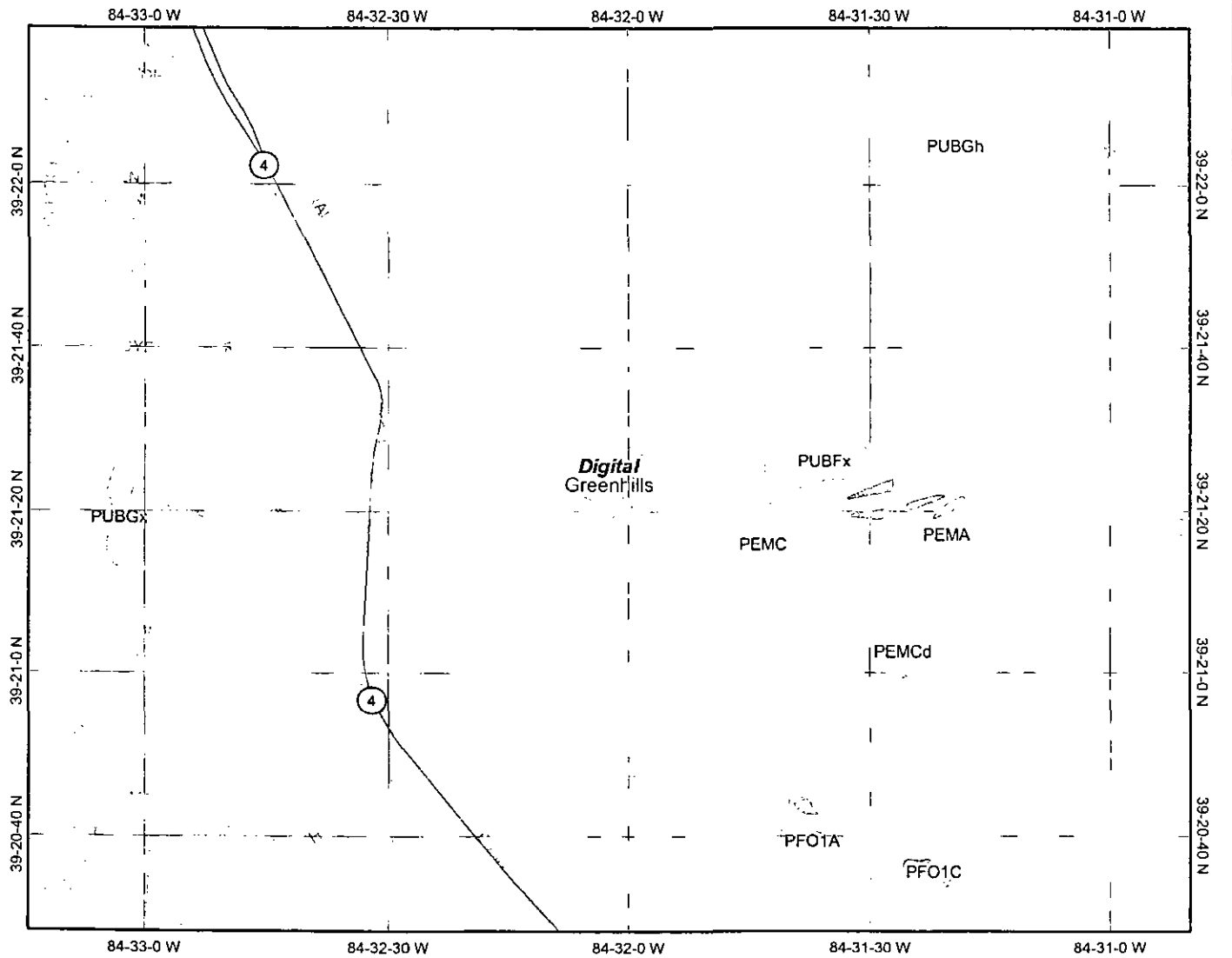
NOISE-SENSITIVE AREA PLAN

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E01	Drawn By: TJM	
Drawing Date: 1-11-2010	Approved By: EPS	
Last Updated: 1-11-2010	Scale: 1" = 1/4 MILE	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-6471
Dayton (937) 424-1011

NWI - 138 kV Long Line



Map center: 39° 21' 24" N, 84° 32' 2" W

Legend

- Interstate
- Major Roads
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Cities
- USGS Quad Index 24K
- Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America

Scale: 1:24,000

Soil Map ...er County, Ohio
((138 kV Long Line - Proposed Route))

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:24,000 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:15,840.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 16N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

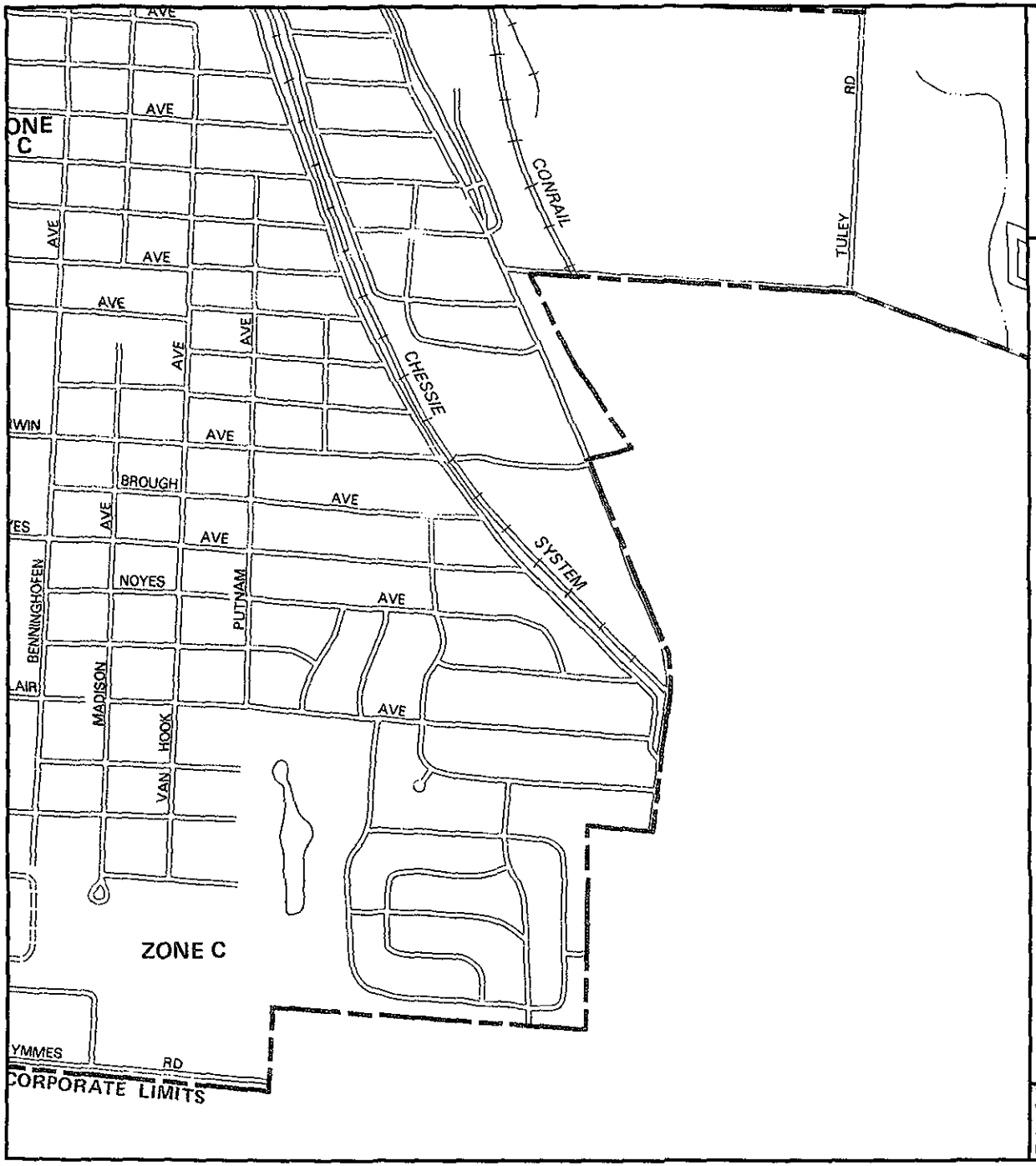
Soil Survey Area: Butler County, Ohio
Survey Area Data: Version 10, Nov 9, 2009

Date(s) aerial images were photographed: 6/23/2004

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Butler County, Ohio (OH017)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
EIA	Eldean loam, 0 to 2 percent slopes	61.1	9.5%
EIB2	Eldean loam, 2 to 6 percent slopes, moderately eroded	8.6	1.3%
EuA	Eldean-Urban land complex, nearly level	80.9	12.5%
EuB	Eldean-Urban land complex, gently sloping	11.1	1.7%
FcA	Fincastle silt loam, 0 to 2 percent slopes	30.3	4.7%
FcB	Fincastle silt loam, 2 to 6 percent slopes	2.0	0.3%
HoA	Henshaw silt loam, 0 to 2 percent slopes	1.7	0.3%
MsC2	Miamian-Russell silt loams, 6 to 12 percent slopes, moderately eroded	5.2	0.8%
Pa	Patton silty clay loam	56.7	8.8%
PrB	Princeton sandy loam, 2 to 8 percent slopes	0.0	0.0%
RdA	Raub silt loam, 0 to 2 percent slopes	34.6	5.4%
RvB	Russell-Miamian silt loams, 2 to 6 percent slopes	0.1	0.0%
RvB2	Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded	28.3	4.4%
RxB	Russell-Urban land complex, gently sloping	17.1	2.6%
TpA	Tippecanoe silt loam, 0 to 2 percent slopes	3.2	0.5%
Ud	Udorthents	15.0	2.3%
Uf	Udorthents and Dumps	12.5	1.9%
UnA	Uniontown silt loam, 0 to 2 percent slopes	1.0	0.1%
UpA	Urban land-Eldean complex, nearly level	205.8	31.9%
XeB	Xenia silt loam, 2 to 6 percent slopes	54.3	8.4%
XeB2	Xenia silt loam, 2 to 6 percent slopes, moderately eroded	15.9	2.5%
Totals for Area of Interest		**645.5**	**100.0%**



APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

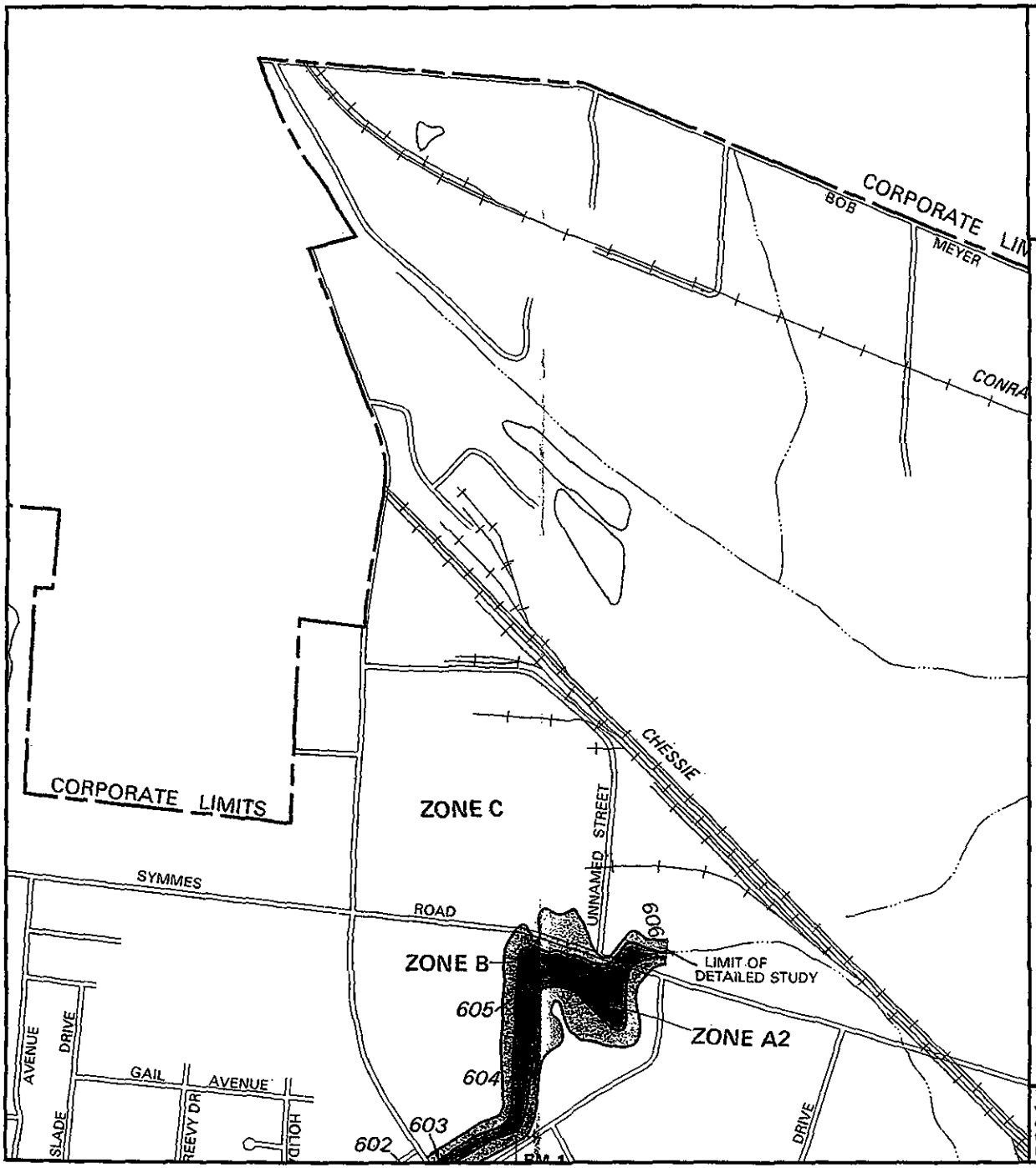
CITY OF
HAMILTON,
OHIO
BUTLER COUNTY

PANEL 10 OF 10

COMMUNITY-PANEL NUMBER
390039 0010 D

MAP REVISED:
FEBRUARY 15, 1985

Federal Emergency Management Agency



APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

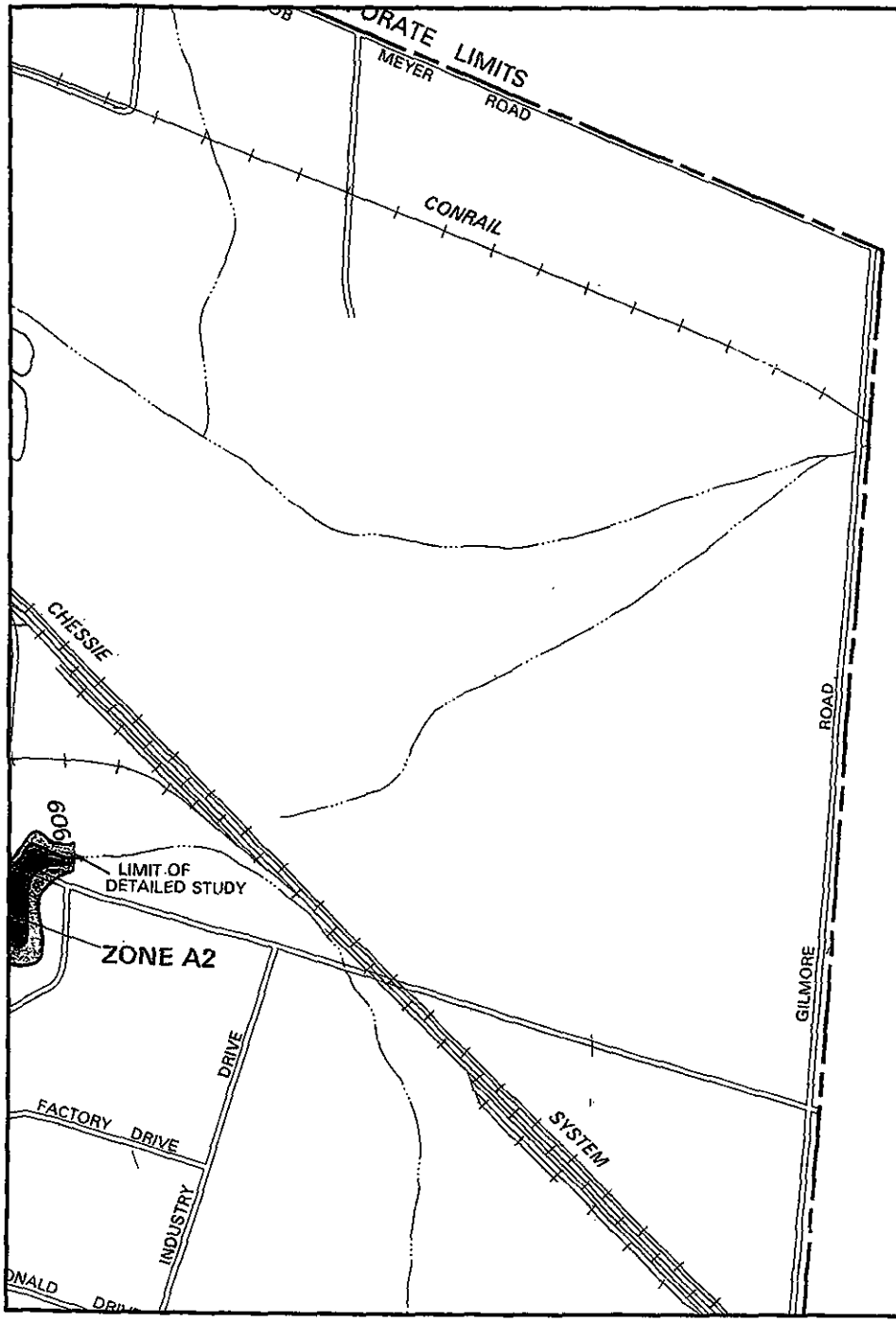
CITY OF
FAIRFIELD, OHIO
BUTLER COUNTY

PANEL 5 OF 10

COMMUNITY-PANEL NUMBER
390038 0005 B

EFFECTIVE DATE:
MARCH 15, 1979

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION



APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
FAIRFIELD, OHIO
BUTLER COUNTY

PANEL 5 OF 10

COMMUNITY-PANEL NUMBER
390038 0005 B

EFFECTIVE DATE:
MARCH 15, 1979

U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

APPENDIX C

BBCM
SOLUTIONS TO BUILD ON

January 7, 2010
011-11772-E01

Mr. Randy Meyer
American Municipal Power, Inc.
1111 Schrock Road, Suite 100
Columbus, Ohio 43229

Re: Supplemental Documentation
Preliminary Jurisdictional Waters Delineation
Substation No. 10 to Substation No. 11 138 kV Transmission Line (Long Line)
Hamilton and Fairfield, Butler County, Ohio

Dear Mr. Meyer:

On January 8, 2009, BBC&M Engineering, Inc. (BBCM) submitted a Preliminary Jurisdictional Waters Delineation report for the referenced site. Since the time of the report submittal, the alignment for the Long Line has been altered at the western end of the project. BBCM has updated the drawings for the Long Line. Changes to the alignment were reflected on the drawings labeled as Sheets 14 and 15. Based on our review, the change to the alignment does not affect the Conclusions of the January 8, 2009 report. Copies of the drawings illustrating the alignment change are attached.

We appreciate the opportunity to provide our environmental services to you on this project. Please contact us at (614) 793-2226 if you have questions about this letter.

Respectfully submitted,

BBC&M ENGINEERING, INC.
Columbus, Ohio

Scott C. Ross, CPESC®
Project Environmental Scientist

Mary E. Sharrett, P.E., LEED® AP
Senior Engineer

Enclosures: Long Line Index Sheet, Long Line Sheets 14 and 15

Submitted: one electronic copy via BBCM FTP

BBC&M
SOLUTIONS TO BUILD ON

PRELIMINARY JURISDICTIONAL WATERS DELINEATION (DRAFT)

SOID SUBSTATION TO SUBSTATION NO.10
138 KV TRANSMISSION LINE (LONG LINE)
HAMILTON AND FAIRFIELD, BUTLER COUNTY, OHIO

Report to:

AMERICAN MUNICIPAL POWER–OHIO, INC.
COLUMBUS, OHIO

Prepared by:

BBC&M ENGINEERING, INC.
ENVIRONMENTAL SERVICES
COLUMBUS, OHIO

January 8, 2009

BBCM
SOLUTIONS TO BUILD ON

January 8, 2009
011-11772-E00

Mr. Randy Meyer
American Municipal Power–Ohio, Inc.
2600 Airport Drive
Columbus, Ohio 43219

Re: Preliminary Jurisdictional Waters Delineation – DRAFT
SOID Substation to Substation No. 10 138kV Transmission Line (Long Line)
Hamilton and Fairfield, Butler County, Ohio

Dear Mr. Meyer:

In accordance with our proposal dated May 2, 2008 and our contract dated October 20, 2008, BBC&M Engineering, Inc. (BBCM) has conducted a Preliminary Jurisdictional Waters Delineation for the above-referenced site.

We appreciate the opportunity to provide our environmental services to you on this project. Please contact us at (614) 793-2226 if you have questions about this report.

Respectfully submitted,

BBC&M ENGINEERING, INC.
Columbus, Ohio

Scott C. Ross
Project Environmental Scientist

Mary E. Sharrett, P.E., LEED® AP
Senior Engineer

Submitted: 1 electronic copy via BBCM FTP

TABLE OF CONTENTS

APPENDICES

PRELIMINARY JURISDICTIONAL WATERS DELINEATION
SOID Substation to Substation 10 138 kV Transmission Line
Hamilton and Fairfield, Butler County, Ohio

1.0 INTRODUCTION

The City of Hamilton proposes to install a new transmission line from the SOID Substation located along the eastern side of Gilmore Road to Substation No. 10 located north of Clinton Avenue. Two potential routes (the "site") are proposed for the SOID Substation to Substation No. 10 138 kV Transmission Line ("Long Line"). The site includes a 200-foot wide corridor along each Route.

The Preferred Route begins at the SOID Substation (39.35206° N, 84.51865° W) along the east side of North Gilmore Road and generally heads southwest crossing vacant property until it reaches the Baltimore & Ohio (B & O) Railroad corridor. The Route then generally follows the B & O Railroad corridor ending at Substation No. 10 (39.36551° N, 84.54734° W) with the exception of a portion of the Route which crosses an industrial facility and residential neighborhood. The Preferred Route is approximately 2.31 miles in length.

The Alternate Route begins at the SOID Substation and generally follows the North Gilmore Road and Norfolk Southern Railroad corridors to the northwest, ending at Substation No. 10 along Clinton Avenue. The Alternate Route is approximately 2.06 miles in length.

The approximate location of the site is indicated on the Butler County Map and Vicinity Map (Appendix A) and site features are indicated on the Jurisdictional Waters Plan (Appendix A). Site photographs are 0included in Appendix B.

2.0 REGULATORY INFORMATION

According to the Clean Water Act (CWA), prior to initiating a "discharge" of dredged or fill material into "jurisdictional waters of the U.S." (e.g., wetlands, lakes, ponds, rivers, streams, etc.), a CWA Section 404 permit must be acquired from the United States Army Corps of Engineers (USACE) and a CWA Section 401 water quality certification must be acquired from the Ohio Environmental Protection Agency (OEPA).

Prior to initiating the Section 404/401 authorization permit processes, the geographical boundaries of jurisdictional waters of the U.S. on the site must be determined. According to the "Corps of Engineers Wetlands Delineation Manual" published by USACE in 1987; hereafter, referred to as the "1987 Manual," generally an area is a wetland if three wetland criteria (dominant hydrophytic vegetation, wetland hydrology, and hydric soils) are present in that area. The geographical boundaries of other non-tidal waters of the U.S. (e.g., rivers, streams, lakes, ponds, etc.) are based on an "ordinary high water mark."

A joint memorandum from the United States Environmental Protection Agency (USEPA) and USACE headquarters was issued on June 5, 2007, providing guidance to these agencies on the U.S. Supreme Court's decision in the Rapanos v. United States & Carabell v. United States. The general context of this guidance addresses confirmation of agency jurisdiction over traditional navigable waters, non-navigable tributaries, and wetlands adjacent to these waters. A "significant nexus" must be determined for other waters such as tributaries that are not relatively permanent and wetlands not adjacent to streams to be considered jurisdictional. This guidance is used by USACE for conducting their jurisdictional determinations (JDs). Finalization of a JD includes the local USACE district coordinating with USEPA and the USACE headquarters, as

needed. Therefore, the BBCM determination of whether a wetland or stream is jurisdictional is based on our understanding of the USACE procedure at the time of this report. Our jurisdictional opinion summarized in this report is preliminary and is contingent on review and concurrence by USACE.

3.0 METHODS

On-site wetland determinations for this Preliminary Jurisdictional Waters Delineation (PJWD) were performed in general accordance with the Routine On-Site Determination method described in the 1987 Manual. Other waters of the U.S. were delineated based on ordinary high water mark indicators observed in the field.

4.0 LITERATURE REVIEW

4.1 Soil Survey

According to the "Web Soil Survey 2.0 – Butler County, Ohio" (Natural Resources Conservation Service), there are 17 soil types mapped on the site, as summarized in Table 1. The boundaries of the soil types are indicated on the soil survey map (Appendix A).

TABLE 1: MAPPED SOIL TYPES
SOID Substation to Substation No. 10 138 kV Transmission Line
Hamilton and Fairfield, Butler Co., Ohio

Mapping Unit Symbol	Mapping Unit Name	Drainage Class	Hydric Soil*
ElA	Eden loam, 0 to 2% slopes	Well drained	No
ElB2	Eldean loam, 2 to 6% slopes	Well drained	No
EuA	Eldean-Urban land complex, nearly level	Well drained	No
EuB	Eldean-Urban land complex, gently sloping	Well drained	No
FcA	Fincastle silt loam, 0 to 2% slopes	Somewhat poorly drained	No
MsC2	Miamian-Russell silt loams, 6 to 12% slopes, moderately eroded	Well drained	No
Pa	Patton silty clay loam	Poorly drained	Yes
RdA	Raub silt loam, 0 to 2% slopes	Somewhat poorly drained	No
RvB2	Russell-Miamian silt loams, 2 to 6% slopes, moderately eroded	Well drained	No
RxB	Russell-Urban land complex, gently sloping	Well drained	No
TpA	Tippecanoe silt loam, 0 to 2% slopes	Moderately well drained	No
Ud	Udorthents	Not Listed	No
Uf	Udorthents and Dumps	Not Listed	No
UnA	Uniontown silt loam, 0 to 2% slopes	Well drained	No
UpA	Urban land-Eldean complex, nearly level	Well drained	No
XeB	Xenia silt loam, 2 to 6% slopes	Moderately well drained	No
XeB2	Xenia silt loam, 2 to 6% slopes, moderately eroded	Moderately well drained	No

*Source: "Hydric Soils List – Butler County, Ohio" (USDA – NRCS, December 2007).

4.2 USGS Topographic Quadrangle

According to the Hamilton and Greenhills, Ohio quadrangles (United States Geological Survey (USGS) 7.5-minute topographic quadrangles), surface topography along the Preferred Route generally slopes downward towards the west with surface elevations ranging from approximately 620 feet above mean sea level (MSL) along the southeast portion of the Route to approximately 600 feet above MSL on the west/southwest portion of the Route. Surface topography along the Alternate Route generally slopes downward towards the south and east with surface elevations ranging from approximately 620 feet above MSL along the north portion to approximately 609 feet above MSL on the east/northeast portion of the Route. Three intermittent streams are mapped on the site. A copy of a portion of the USGS maps is included in Appendix A.

4.3 National Wetlands Inventory Map

According to the National Wetlands Inventory (NWI) map with coverage of the site (Hamilton and Greenhills, Ohio quadrangles), no wetlands are mapped within the Route corridors. A copy of a portion of the NWI map is included in Appendix A.

4.4 Aerial Photography

Aerial photography from 2005 indicates the site is located in urban areas within the Cities of Hamilton and Fairfield. The majority of the land use along the Route corridors consists of residential, commercial, and industrial properties. The southeast portion of the Preferred Route and north portion of the Alternate Route and are located along a railroad corridor. Based on the aerial photograph, suspected old field, scrub-shrub, and forested areas are located on the east and southeast portions of the site. A copy of the 2005 aerial photograph is included in Appendix A.

5.0 FIELD WORK

On November 13, 20, and 21, 2008, BBCM personnel visually observed the site for indicators of potential wetlands and other waters of the U.S. Upland areas and jurisdictional wetland areas were documented at 21 data points (DP-1 through DP-21) and are summarized in Table 2. Observations at data points were recorded on USACE Wetland Delineation Data Forms which are included in Appendix C. Site photographs are included in Appendix B.

5.1 Summary of Data Points

TABLE 2: DATA POINTS SOID Substation to Substation No. 10 138kV Transmission Line Hamilton and Fairfield, Butler Co., Ohio				
Data Point (DP)	Dominant Hydrophytic Vegetation	Wetland Hydrology Indicators	Hydric Soils	Wetland Data Point?
1	No	No	No	No
2	No	No	No	No
3	Yes	Yes	No	No
4	No	No	No	No
5	No	No	No	No
6	Yes	Yes	Yes	Yes – Wetland A
7	No	No	No	No
8	Yes	Yes	Yes	Yes – Wetland B
9	No	No	Yes	No
10	Yes	Yes	Yes	Yes – Wetland C
11	No	No	No	No
12	Yes	Yes	Yes	Yes – Wetland D
13	No	No	No	No
14	Yes	Yes	Yes	Yes – Wetland E
15	No	No	No	No
16	Yes	Yes	Yes	Yes – Wetland F
17	No	No	No	No
18	Yes	Yes	Yes	Yes – Wetland G
19	No	No	No	No
20	Yes	Yes	Yes	Yes – Wetland H
21	Yes	No	No	No

5.2 Upland Areas

An upland area consists of an area where normal circumstances exist, an "atypical situation" (as defined in the 1987 Manual) does not exist, and at least one of the three jurisdictional wetland criteria is not present. The majority of the upland portions of the site consist of developed/previously disturbed areas (Photographs 1 through 8). Old field, scrub/shrub, and forested areas are located on the southeast, east, and northeast portions of the site (Photographs 1 through 4). Refer to the Jurisdictional Waters Plan (Appendix A) for upland data point locations.

5.3 Jurisdictional Wetlands (Waters of the U.S.)

Jurisdictional wetlands are determined by the presence of three criteria: dominant hydrophytic vegetation, wetland hydrology, and hydric soils. Additionally, in order for an area to be considered a jurisdictional wetland, a surface water/hydrologic connection from a wetland to a jurisdictional waterway is generally required. The three wetland criteria and a hydrologic connection to waters of the U.S. were observed at eight wetland areas designated as Wetlands A, B, C, D, E, F, G, and H. All on-site wetlands are located along the Alternate Route corridor.

Wetland A is an emergent wetland located along a railroad bed with greater than 75% coverage of narrow-leaved cattail *(Typha angustifolia)*. Wetland B is a scrub/shrub wetland located along a railroad bed that appeared to have 25% to 50% coverage of reed canary grass *(Phalaris arundinacea)*. Wetland C is a scrub/shrub wetland located along a railroad bed with 25% to 50% coverage of narrow-leaved cattail *(Typha angustifolia)* and giant reed *(Phragmites australis)*.

Wetland D is a scrub/shrub/forested wetland that appeared to have 5% to 15% coverage of reed canary grass *(Phalaris arundinacea)*. Wetland E is an emergent wetland swale that appeared to have greater than 75% coverage of reed canary grass *(Phalaris arundinacea)*. Wetland F is an emergent fringe wetland located along an abandoned canal channel (Stream 8) with greater than 75% coverage of narrow-leaved cattail *(Typha angustifolia)*. Wetlands G and H are forested wetlands that did not appear to contain invasive species. (Note: identification of some herbaceous plant species, including invasive species, should be confirmed during the growing season due to lack of inflorescence and/or disturbance caused by wildlife.)

A hydrologic connection to unnamed tributaries of Mill Creek was observed for Wetlands A through H. It is believed that USACE will determine that the wetlands are jurisdictional waters of the U.S. and subject to CWA Section 404/401 regulations. Refer to the Jurisdictional Waters Plan (Appendix A) for the wetland and data point locations.

5.4 Other Jurisdictional Waters of the U.S.

Eight ephemeral streams, designated as Streams 1, 2, 3, 4, 5, 6, 7, and 8, were observed on the site. Streams 1 and 2 are located along the Preferred Route corridor and Streams 3 through 8 are located along the Alternate Route.

According to mapping provided by the Butler County Engineer (Butler County Map – Appendix A), the stream designated as Stream 8 is an abandoned canal (Miami - Erie Canal). Stream 7 also is believed to be associated with the abandoned canal system. All on-site streams have been highly modified (e.g., channelization, culverts, etc.). Table 4 provides a summary of the streams identified. The on-site streams are unnamed tributaries of Pleasant Run and Mill Creek. Refer to the Jurisdictional Waters Plan (Appendix A) for the stream locations.

5.5 Isolated Waters

No isolated waters were observed during the field work.

6.0 RESULTS

To determine the boundaries of the on-site streams and wetlands, BBCM personnel used data collected during the field work. The stream and wetland boundaries were marked with plastic flagging and surveyed with Global Positioning System (GPS) equipment capable of sub-foot accuracy.

6.1 On-Site Jurisdictional Waters of the U.S.

The on-site jurisdictional waters of the U.S. are summarized in Tables 3 and 4 on the following pages, and are illustrated on the Jurisdictional Waters Plan (Appendix A).

TABLE 3: ON-SITE WATERS OF THE U.S. – STREAMS SOID Substation to Substation No. 10 138kV Transmission Line Hamilton and Fairfield, Butler Co., Ohio					
Stream ID	**Photograph Number**	**Plan Figure Number**	**Stream Type**	**Linear Feet/Average Width (Feet)***	**Areal Extent On-Site (Acres)***
1	9	12	Ephemeral	179/2.6	0.01
2	10	10, 11	Ephemeral	794/4.1	0.07
3	11	18	Ephemeral	226/4.6	0.02
4	12	19	Ephemeral	229/3.6	0.02
5	13	21	Ephemeral	252/4.6	0.03
6	14	23	Ephemeral	202/3.0	0.01
7	15	26	Ephemeral	64/9.2	0.01
8	16	26	Ephemeral	207/8.5	0.04
Total Extent of Waters of the U.S. – Streams				2,153 linear feet	0.21

*All on-site streams extend off-site. Stream length and aerial extent are based on the stream reach within the Route corridors.

Streams 1 and 2 are unnamed tributaries of Pleasant Run. Pleasant Run is located in the Great Miami River watershed. Streams 3 through 8 are unnamed tributaries of Mill Creek. As previously mentioned, Stream 8 is an abandoned canal that flows into Mill Creek. Streams 3 through 7 are unnamed tributaries of Stream 8.

According to Ohio Administrative Code 3745-1-21, the sections of the Great Miami River and Mill Creek located in the site's watershed have a Warmwater Habitat (WWH) aquatic life use designation. The United States Department of Agricultural – Natural Resources Conservation Service has established a classification system for identifying watersheds by hydrologic unit code (HUC). The portion of the site located west of the B & O Railroad is located in HUC # 05080002-090 (Great Miami). The portion of the site located north and east of the B & O Railroad is located in HUC # 05090203-010 (Mill Creek).

TABLE 4: ON-SITE WATERS OF THE U.S. – WETLANDS SOID Substation to Substation No. 10 138kV Transmission Line Hamilton and Fairfield, Butler Co., Ohio				
Wetland ID	**Photograph Number**	**Plan Figure Number**	**Wetland Habitat Type**	**Areal Extent On-Site (Acres)**
A	17	19	Emergent	0.01
B	18	21	Scrub/Shrub	0.15
C	19	22	Scrub/Shrub	0.16
D	20	25, 26	Scrub/Shrub/Forested	0.90[a]
E	21	26	Emergent	0.07[b]
F	22	26	Emergent	0.01
G	23	26	Forested	0.20[a]
H	24	26	Forested	0.01[a]
Total Extent of Waters of the U.S. – Wetlands				1.51

[a]Wetland extends beyond Route corridors. Total wetland area on/off-site estimated to be greater than 0.3 acres, but less than 3.0 acres.
[b]Wetland extends beyond Route corridors. Total wetland area on/off-site estimated to be less 0.1 acres.

6.2 Stream Habitat Assessment

Stream habitat quality was assessed for on-site streams by completing a Headwater Habitat Evaluation Index (HHEI). All on-site streams had a drainage area less than 1.0 square mile and pool depths less than 40 centimeters. The HHEI was calculated in general accordance with the OEPA "Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams – September 2002 (Final Version 1.0)," hereafter, referred to as the "OEPA Manual." The HHEI results are summarized in Table 5. Completed HHEI forms are included in Appendix D.

TABLE 5: HEADWATER HABITAT EVALUATION INDEX (HHEI) SOID Substation to Substation No. 10 138kV Transmission Line Hamilton and Fairfield, Butler Co., Ohio					
Stream ID	**HHEI Score**	**Preliminary Class Designation***	**Stream ID**	**HHEI Score**	**Preliminary Class Designation***
1	21	1	5	23	1
2	28	1	6	16	1
3	28	1	7	27	1
4	23	1	8	27	1

*Note: all on-site streams have been modified by channelization, culverts, etc., and therefore are designated as Modified Class 1 streams.

6.3 Wetland Quality Assessment

According to the Ohio Wetland Quality Standards a wetland quality category (Category 1, Category 2, or Category 3) must be assigned for each wetland if a project will require discharge of dredge or fill material into jurisdictional wetlands or isolated wetlands. In general, Category 1 wetlands are "low quality" and Category 3 wetlands are "high quality."

OEPA has published the Ohio Rapid Assessment Method (ORAM) which can be used to evaluate wetland quality based on functions and values of a wetland. The two primary components of the ORAM are the Narrative Rating and the Quantitative Rating.

The ODNR Natural Heritage Database correspondence was used in completing the Narrative Rating (Appendix C). ODNR was contacted regarding rare and endangered species records documented within one-half mile of the site. No records for rare or endangered species or other significant natural features, state nature preserves, scenic rivers, unique ecological sites, geologic features, or Indiana bat capture locations or hibernacula were found within the 200-foot Route corridors; however, the following records (Table 6) are documented in the vicinity of the site:

TABLE 6: STATE-LISTED SPECIES
SOID Substation to Substation No. 10 138 kV Transmission Line
Hamilton and Fairfield, Butler Co., Ohio

Scientific Name	Common Name	Taxon	State Status
Clonophis kirtlandii	Kirtland's snake	Reptile	Threatened
Cyperus acuminatus	Pale umbrella-sedge	Plant	Threatened
Echinodorus berteroi	Burhead	Plant	Endangered
Ixobrychus exilis	Least bittern	Bird	Threatened
Nycticorax nycticorax	Black-crowned night-heron	Bird	Threatened
Porzana carolina	Sora rail	Bird	Special Concern

Gilmore Ponds Preserve is located east of the site. The site is also within five miles of an Indiana bat (*Myotis sodalis*) record. ODNR – Division of Wildlife should be contacted regarding potential impacts to rare animal species. A copy of the ONDR letter dated December 18, 2008 is included in Appendix E.

BBCM completed ORAM (version 5.0) Quantitative Rating forms for the on-site wetlands. Based on the results of the ORAM Narrative and Quantitative ratings and review of narrative criteria in OAC 3745-1-54(C), a preliminary category designation for the on-site wetlands was determined. The quantitative rating score and category designation are summarized in Table 7. Copies of the ORAM Rating and Categorization Forms are included in Appendix D.

TABLE 7: OHIO RAPID ASSESSMENT METHOD SCORE/CATEGORY
SOID Substation to Substation No. 10 138kV Transmission Line
Hamilton and Fairfield, Butler Co., Ohio

Wetland ID	ORAM Quantitative Rating Score	Preliminary Wetland Category
A	10	1
B	21	1
C	20	1
D	30	2 (1 or 2 gray zone)
E	11	1
F	17	1
G	36.5	2 (Modified 2)
H	40	2 (Modified 2)

7.0 CONCLUSIONS

A total of 2,153 linear feet of eight jurisdictional streams and 1.51 acres of eight jurisdictional wetlands are located on the site. All on-site wetlands and six streams are located along the Alternate Route. No wetlands were observed along the Preferred Route, and two streams are located along the Preferred Route.

The on-site streams are unnamed tributaries of Pleasant Run and Mill Creek. Stream quality was assessed by determining the HHEI. Based on the HHEI results, all on-site streams were determined to be modified Class 1 streams.

Wetland quality was determined by completing the ORAM. Three forested Category 2 wetlands and five Category 1 wetlands are located on the site.

7.1 Regulatory Permitting

According to Section 404 of the CWA, a permit must be acquired from USACE to authorize discharge of dredge or fill material into waters of the U.S. (e.g., wetlands, streams, ponds, and lakes). USACE has established several Nationwide Permits (NWPs) to expedite the permitting process for common discharges which have been determined to have minimal individual or cumulative impacts on the environment. OEPA Section 401 water quality certifications have been pre-approved for the NWPs. The NWP process typically requires 3 to 6 months for completion.

If impacts will exceed the NWP limitations, an Individual Permit (IP) must be obtained. The IP consists of a Section 404 permit from USACE and a Section 401 water quality certification from OEPA. The IP process typically requires eight to twelve months for processing through both USACE and OEPA. The process includes an alternatives analysis which satisfies the IP requirement for issuance of the "least environmentally damaging practicable alternative" for the project. Conceptual plans to mitigate for impacts to jurisdictional waters must be addressed in the permit application.

7.2 USACE Verification

Since USACE has authority to determine and/or verify the geographical boundaries of wetlands and other waters of the U.S., to this point, this investigation is termed "preliminary." USACE verification (also referred to as a Jurisdictional Determination "JD") is required for completion of the Section 404 or isolated wetland permitting process. It is the responsibility of any party that intends to discharge dredge or fill material into jurisdictional waters of the U.S. to comply with all applicable regulations.

8.0 LIMITATIONS

This PJWD is limited in scope to the specific terms of the Agreement previously entered into between BBCM and AMP-Ohio. This report represents the site conditions as of the date issued. BBCM has no responsibility for updating the information herein; therefore, it should not be assumed that any information contained herein continues to be accurate subsequent to the date of this report. BBCM shall not be liable for any damage, consequential or otherwise, caused by or resulting from the information and/or conclusions contained herein, except for damage resulting from the negligence of BBCM.

9.0 REFERENCES

Braun, E. L. 1961. *The Woody Plants of Ohio*. The Ohio State University Press, Columbus, Ohio. 362 pp.

Butler County Auditor. 2005. *Historic Aerial Photograph*. 1:12,000. Butler County Auditor. Hamilton, Ohio.

Cowardin, L. M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Office of Biological Services, U.S. Department of Interior, Fish and Wildlife Service, Washington, D.C. 131 pp.

Davic, R. D., ed. 2002. *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams. Final Verion 1.0*. Ohio Environmental Protection Agency, Division of Surface Water, Columbus, Ohio. 60 pp.

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual. Technical Report 4-87-1*. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 169 pp.

Fisher, T. R. 1988. *The Dicotyledoneae of Ohio, Part 3. Asteraceae*. The Ohio State University Press, Columbus, Ohio. 280 pp.

Gleason, H. A. and A. Cronquist. 1991. *Manual of Vascular Plants of Northeastern United States and Adjacent Canada, Second Edition, Ninth Printing, 2006*. The New York Botanical Garden Press, Bronx, New York. 993 pp.

Holmgren, N. H. and et al. eds. 1998. *Illustrated Companion to Gleason and Cronquist's Manual: Illustrations of the Vascular Plants of Northeastern United States and Adjacent Canada, Second Printing, 2004*. The New York Botanical Garden Press, Bronx, New York. 919 pp.

Mack, J. J. 2000. *ORAM v. 5.0 Quantitative Score Calibration.* Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit, Columbus, Ohio.

Mack, J. J. 2001. *Ohio Rapid Assessment Method for Wetlands v. 5.0, User's Manual and Scoring Forms*. Ohio EPA Technical Report WET/2001-1. Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit, Columbus, Ohio.

Munsell Color. 2000. *Munsell Soil Color Charts, Year 2000 Revised Washable Edition*. New Windsor, New York.

Newcomb, L. 1977. *Newcomb's Wildflower Guide*. Little, Brown and Company, United States of America. 490 pp.

Ohio Environmental Protection Agency. 2002. *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams.* Ohio Environmental Protection Agency, Division of Surface Water, Columbus, Ohio. 60 pp.

U.S. Department of Interior, Fish and Wildlife Service. *National Wetlands Inventory (map).* 1:24,000. U.S. Department of Interior, Fish and Wildlife Service. Washington, D.C. http://www.fws.gov/wetlands/data/index.html

U.S. Department of Interior, Geological Survey. 1965 (photo-revised 1981). *Greenhills quadrangle, Ohio (topographic map)*. 1:24,000. 7.5-Minute Series. U.S. Department of Interior, Geological Survey. Washington, D.C.

U.S. Department of Interior, Geological Survey. 1965 (photo-revised 1988). *Hamilton quadrangle, Ohio (topographic map)*. 1:24,000. 7.5-Minute Series. U.S. Department of Interior, Geological Survey. Washington, D.C.

U.S. Department of Agriculture, Natural Resources Conservation Service. 2008. *Soil Map – Butler County, Ohio*. 1:12,000. Web Soil Survey 2.0. U.S. Department of Agriculture, Natural Resources Conservation Service. Washington, D.C. http://websoilsurvey.nrcs.usda.gov/app/

APPENDIX A

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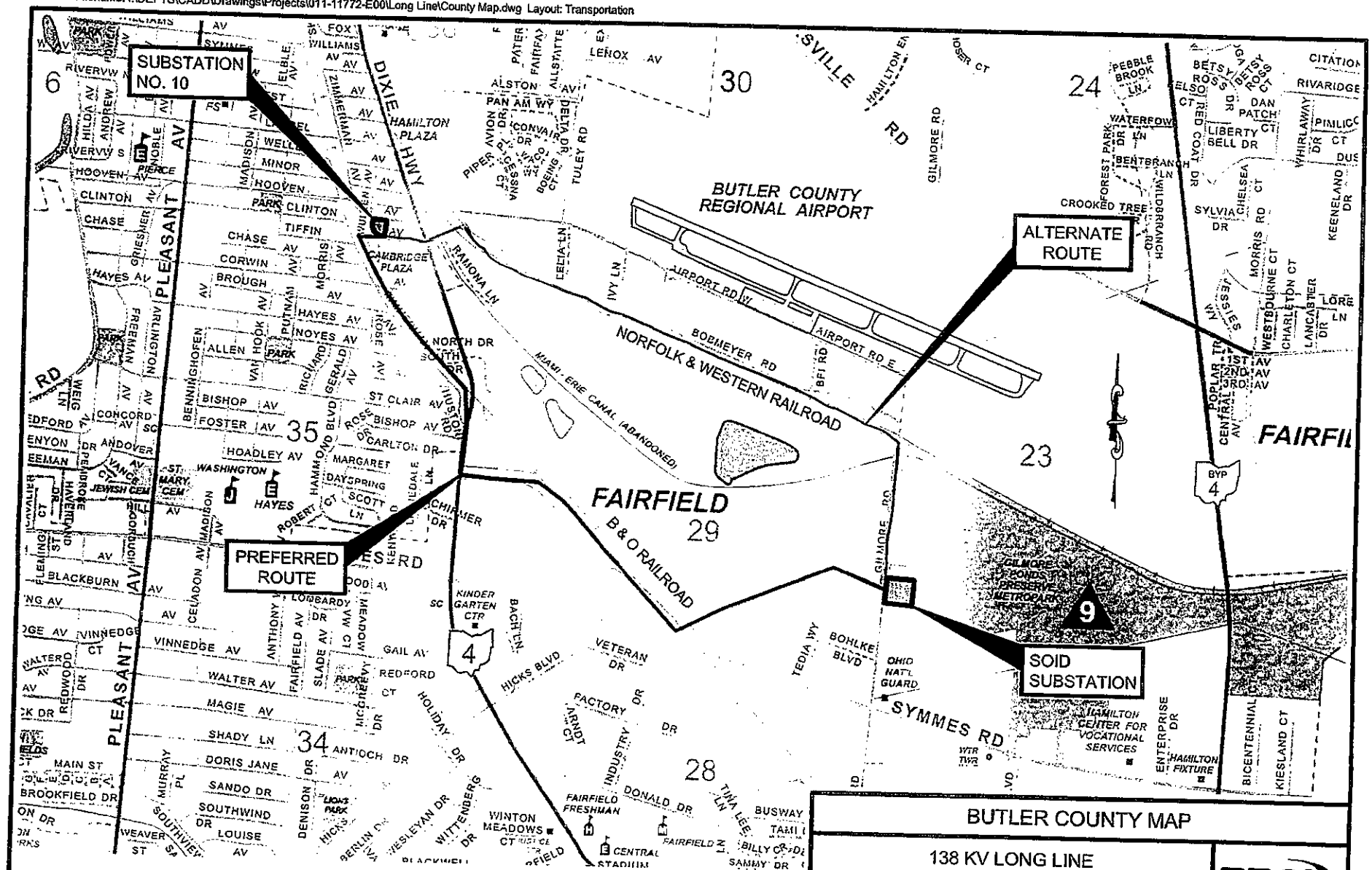

BASE MAP SOURCE: BUTLER COUNTY ENGINEER

BUTLER COUNTY MAP

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: TJM
Drawing Date: 1/8/09	Approved By: SCR
Last Updated: 1-8-2009	Scale: 1" = 2000' 1:1

BBCM
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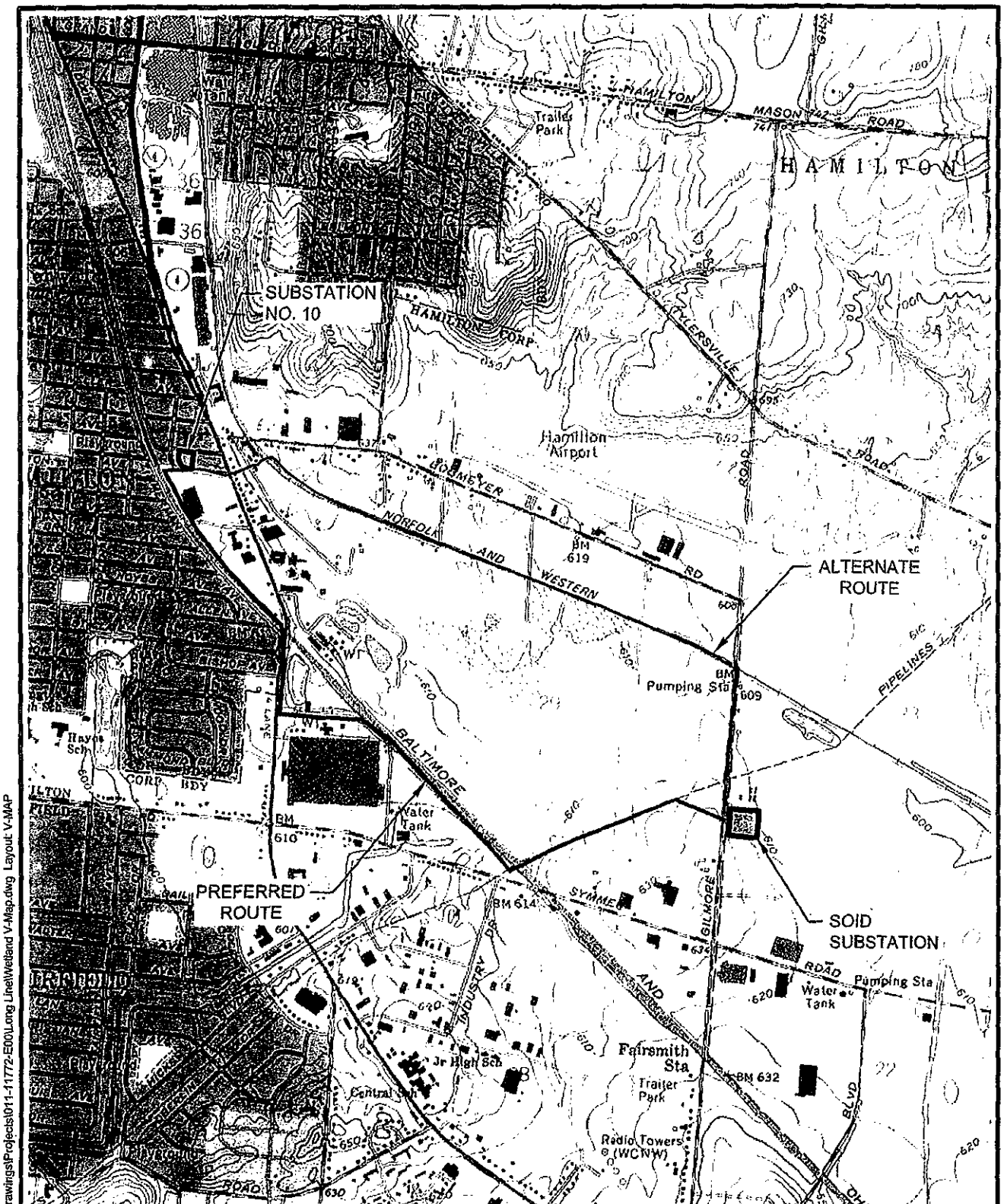
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011



Project Location
Butler County, Ohio

USGS Mapping:
Hamilton & Greenhills

VICINITY MAP

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB
Drawing Date: 12-30-2008	Approved By: MES
Last Updated: 1-5-2009	Scale: 1" = 2000' 1:1

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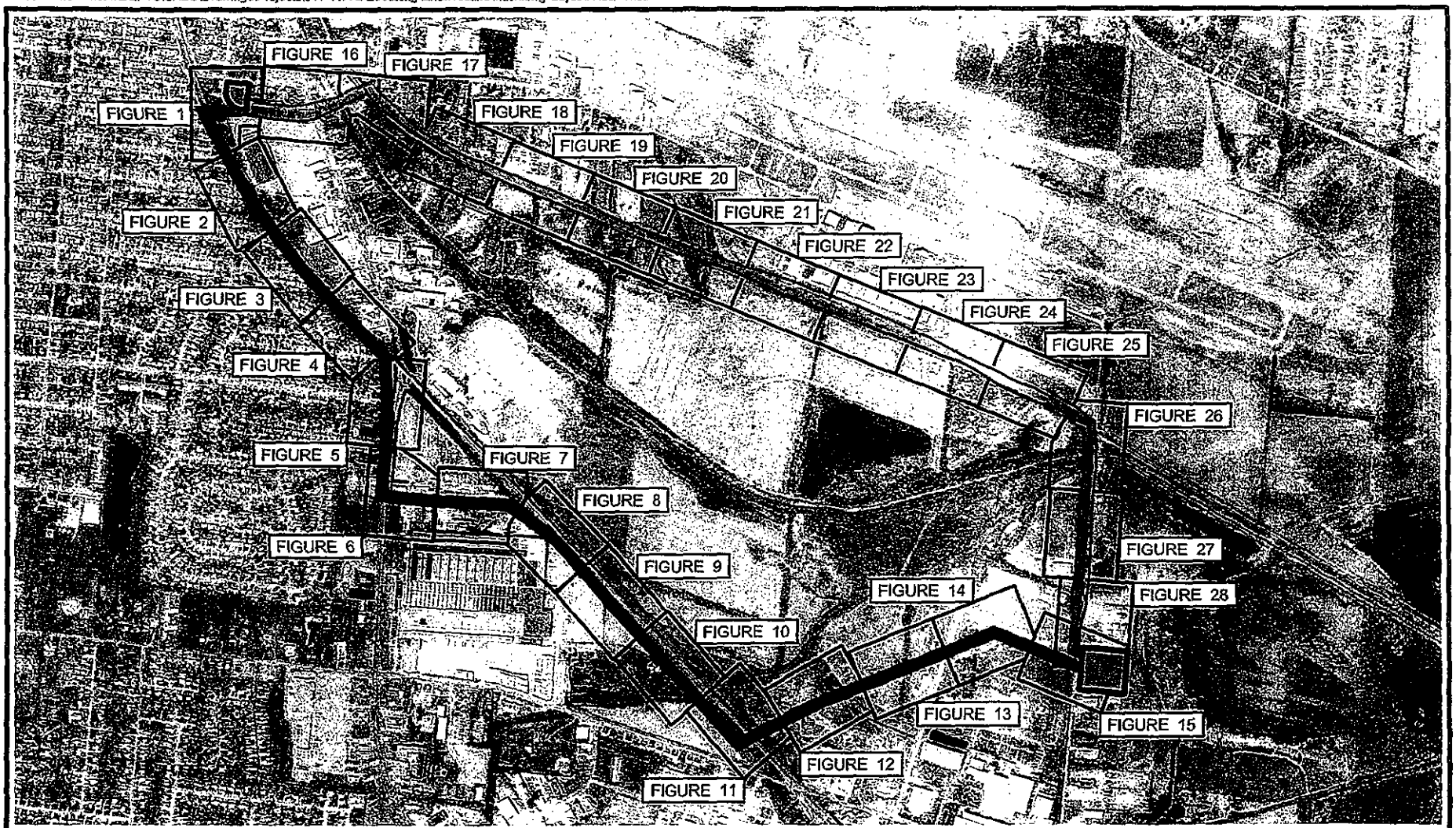

LEGEND

(1) PHOTOGRAPH LOCATION, ID AND ORIENTATION

PREFERRED ROUTE

ALTERNATE ROUTE

DP-1 DATA POINT NUMBER AND LOCATION

BASE MAP SOURCE: BUTLER COUNTY AUDITOR

JURISDICTIONAL WATERS PLAN - FIGURE INDEX

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

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Drawing Date: 12-30-2008	Approved By: MES
Last Updated: 1-7-2009	Scale: 1" = 1/4 Mile 1:1

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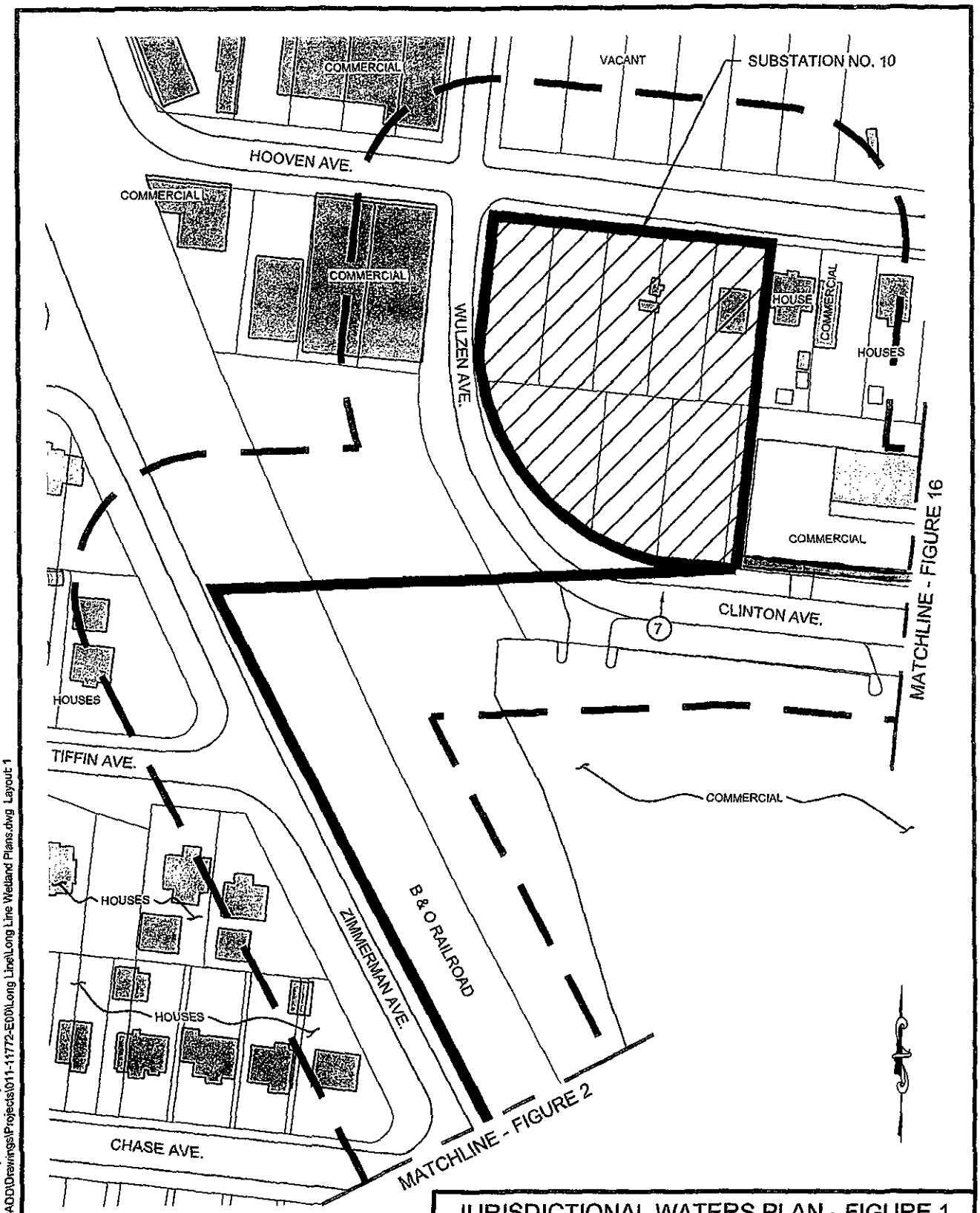

LEGEND

- PREFERRED ROUTE
- ALTERNATE ROUTE
- 100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 1

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
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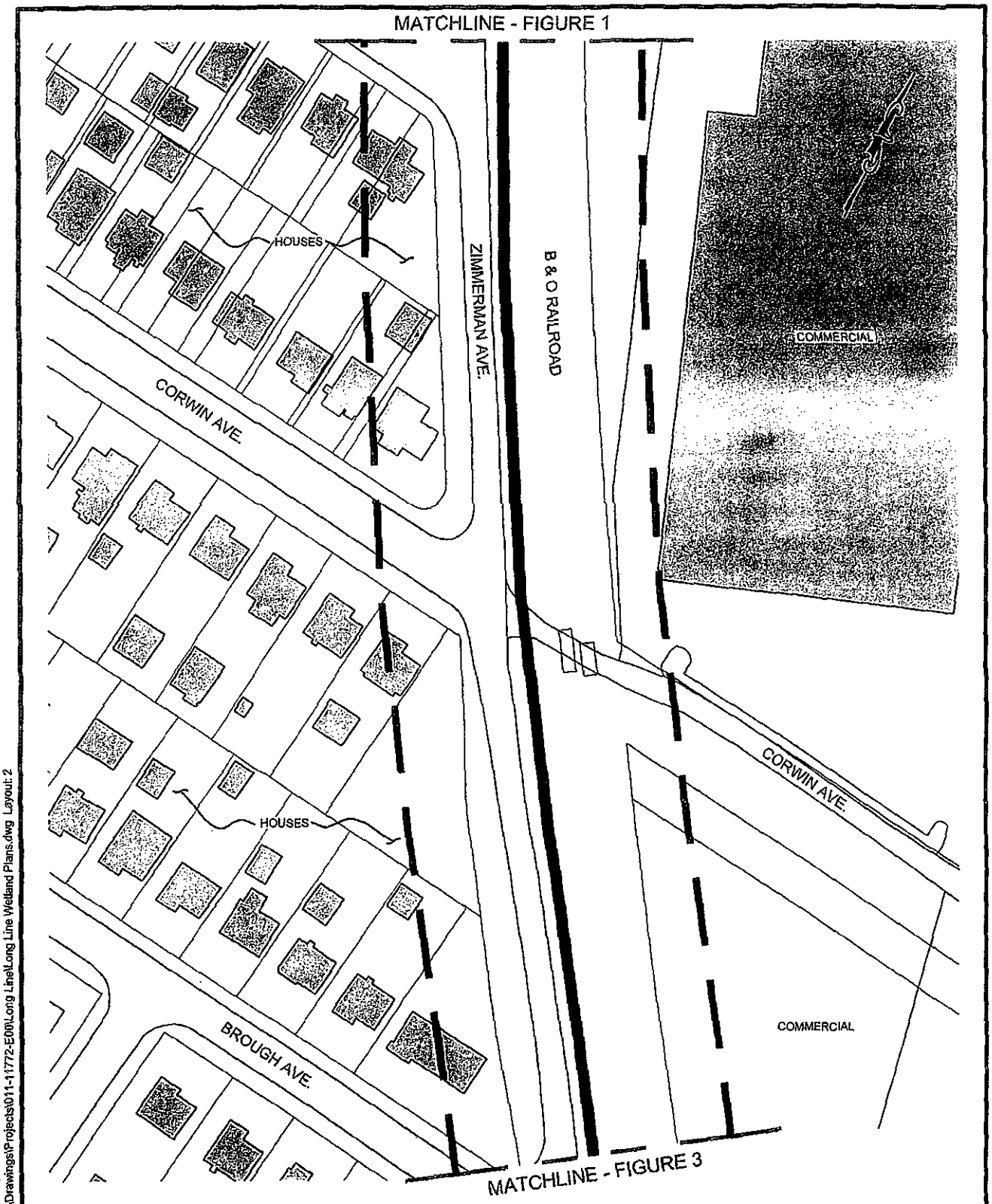

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PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 2

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB
Drawing Date: 12-22-08	Approved By: MES
Last Updated: 1-8-2009	Scale: 1" = 100' 1:1

BBCM SOLUTIONS TO BUILD ON

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Cincinnati (513) 771-8471
Dayton (937) 424-1011

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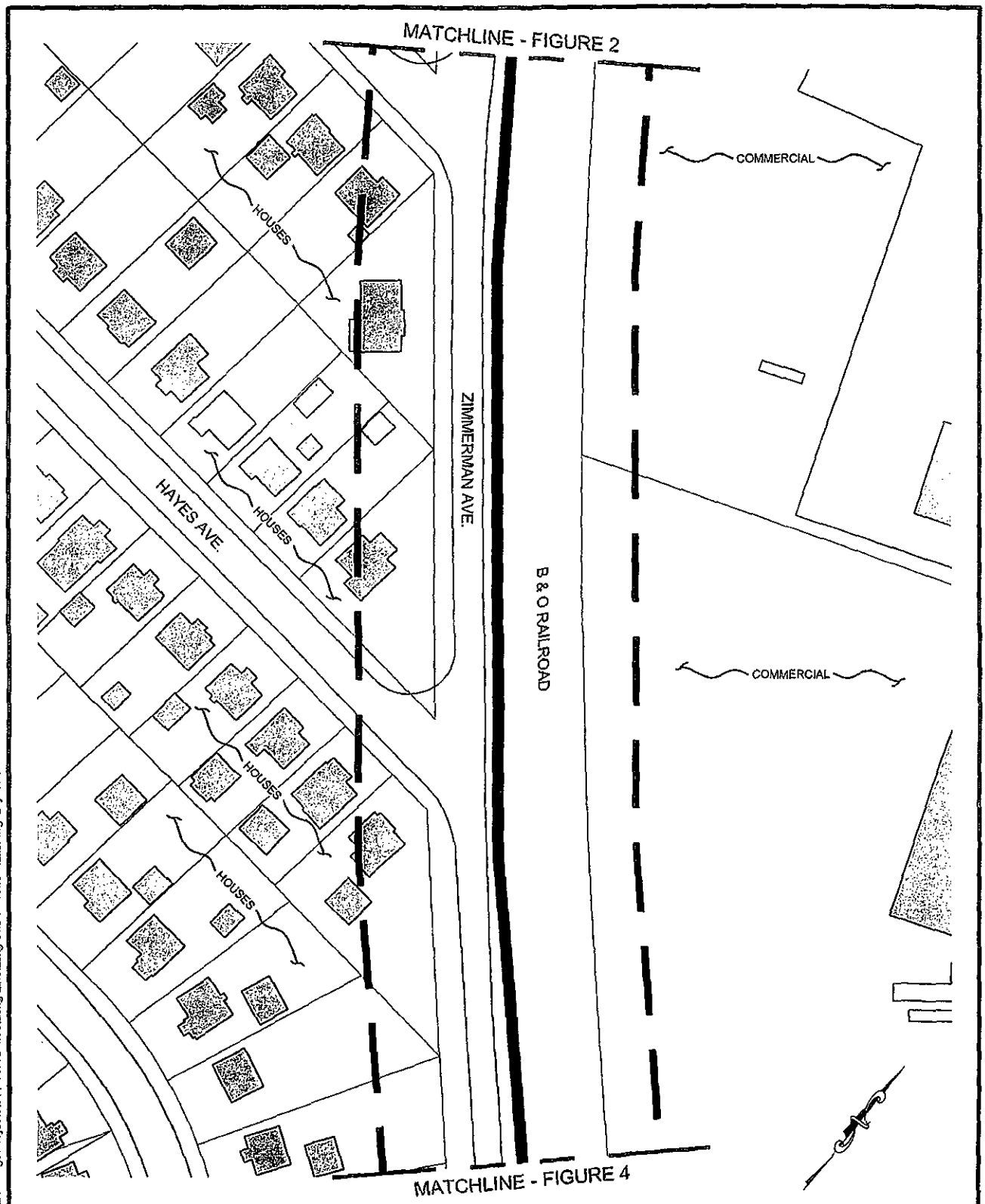

LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 3

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

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Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
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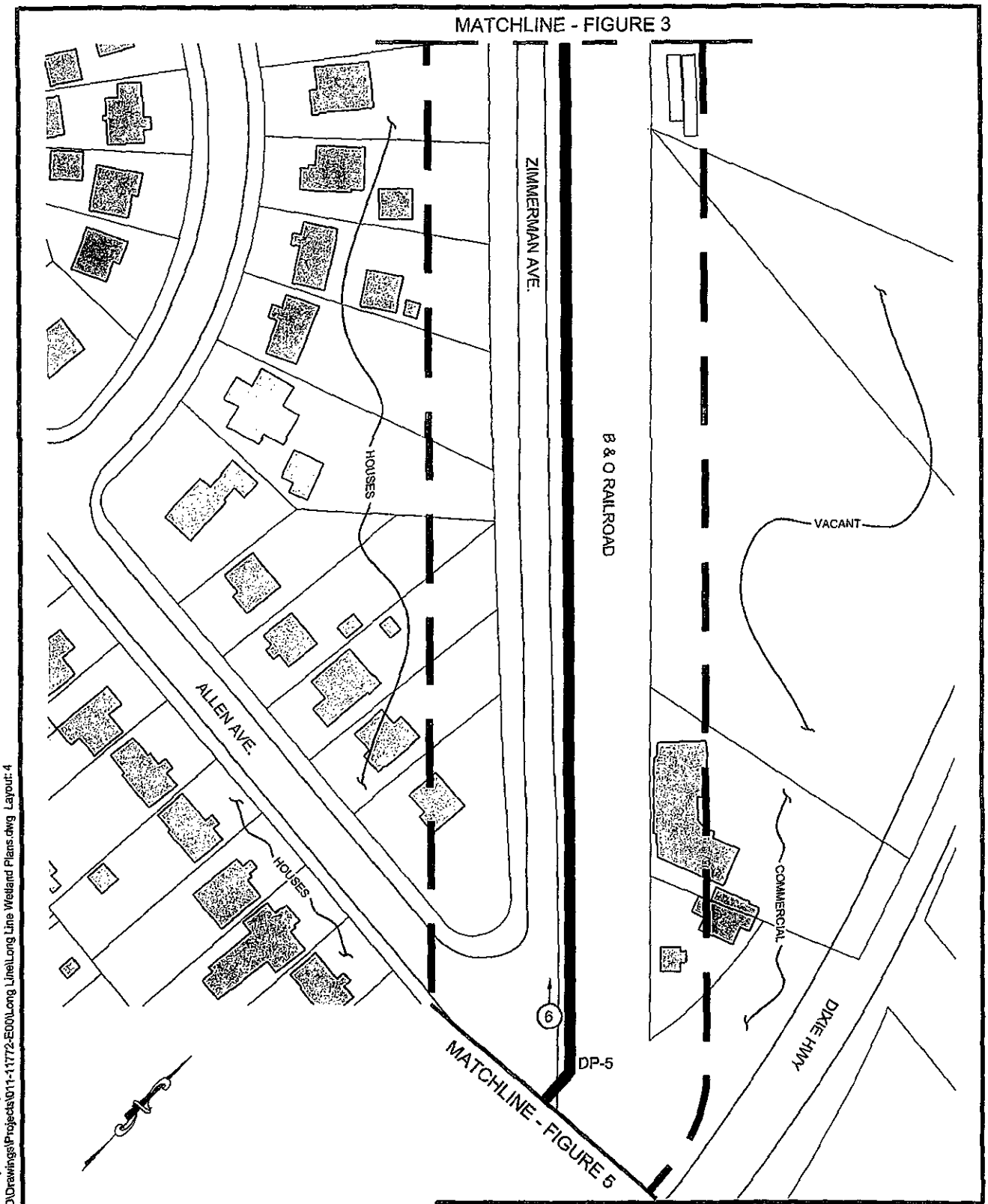


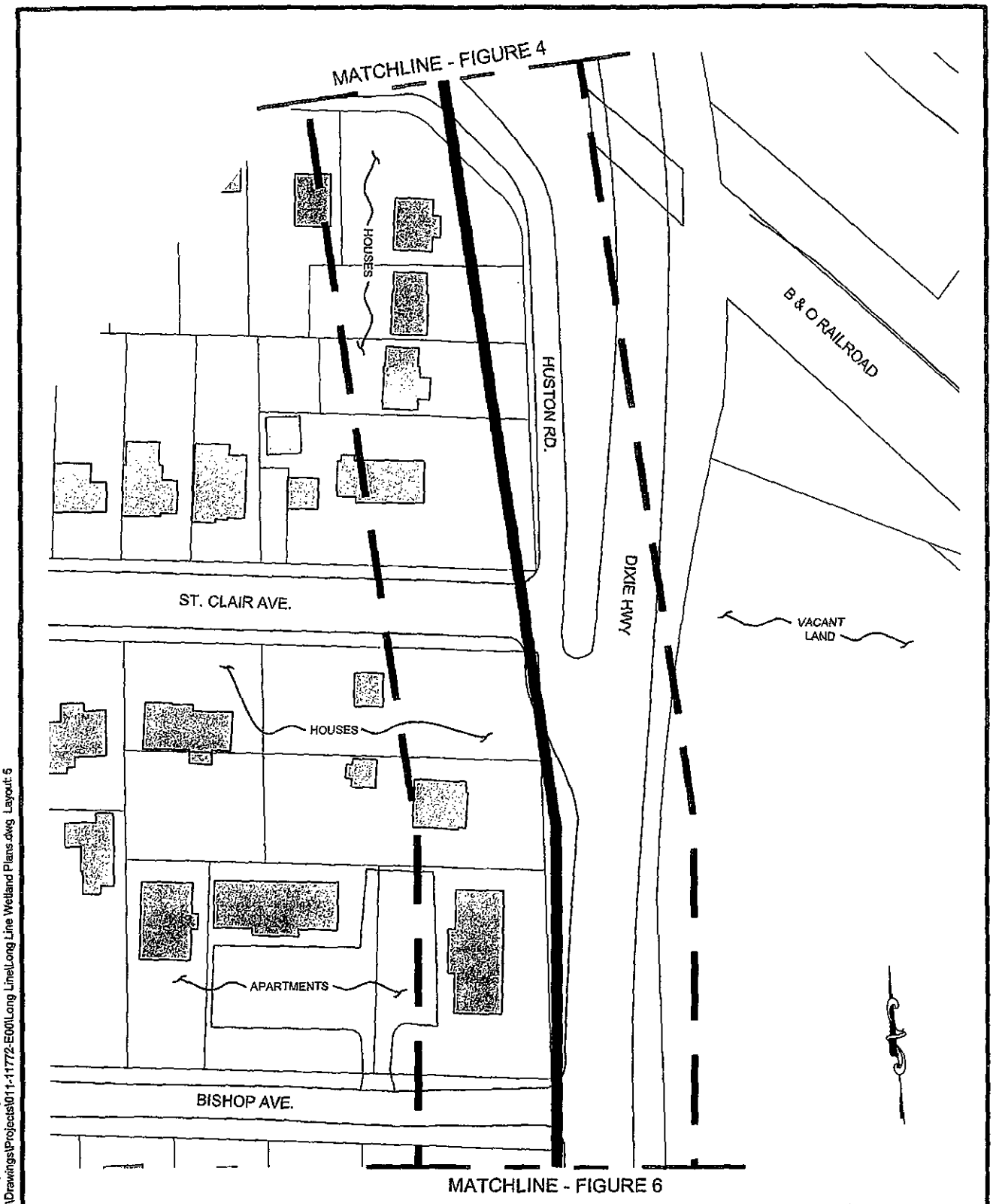
JURISDICTIONAL WATERS PLAN - FIGURE 4

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

BBCM SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1060
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~Zoning Fairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:34am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CAD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 4



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 5

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

BBC&M
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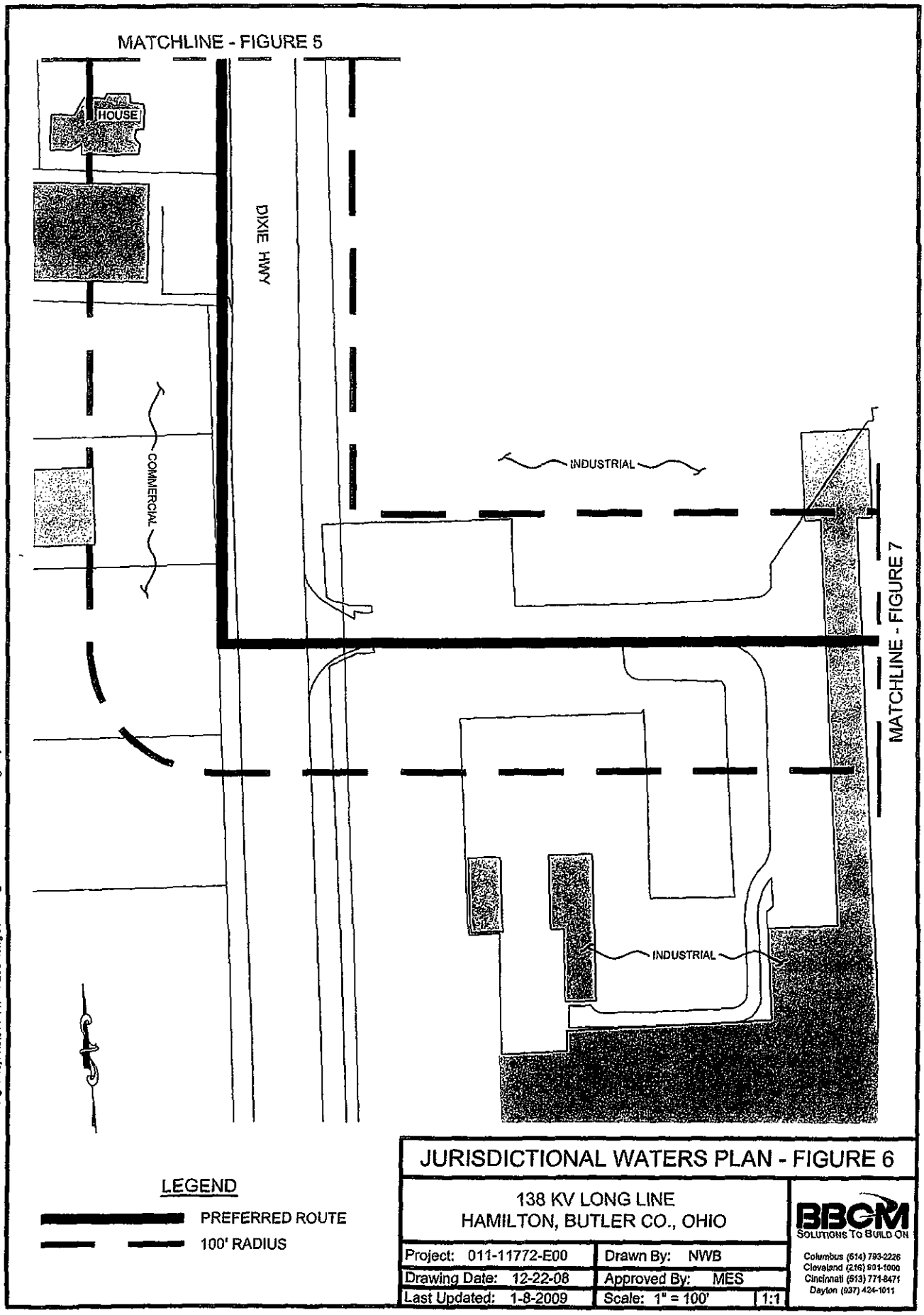
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-6471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:34am By: TMcKelvey
BBC&M Filename: H:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 5



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 6

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB
Drawing Date: 12-22-08	Approved By: MES
Last Updated: 1-8-2009	Scale: 1" = 100' 1:1

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SOLUTIONS TO BUILD ON
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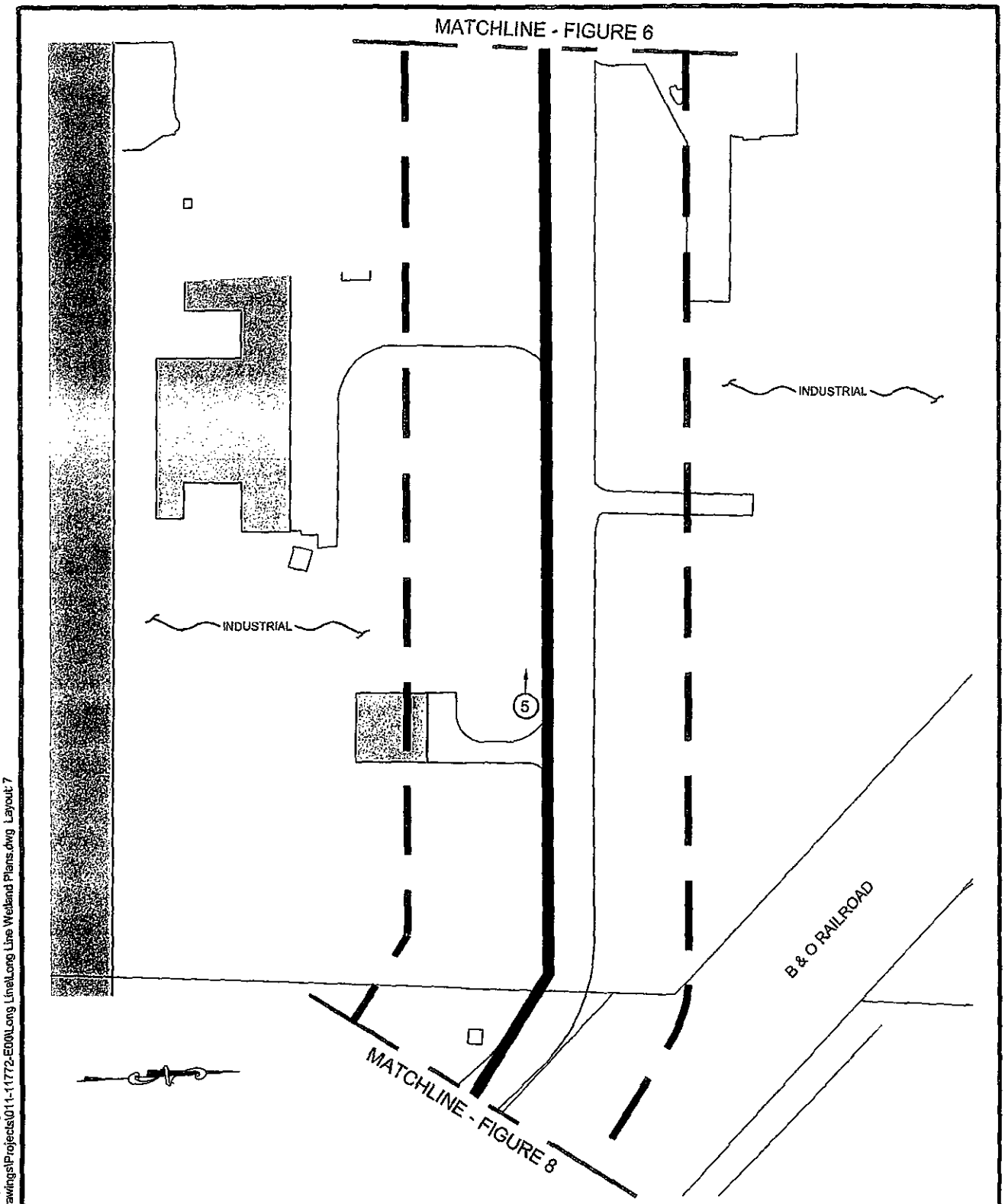
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~ Aerial.tif
Xrefs: ~Long Line Base.dwg ~ Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:34am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 6



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 7

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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SOLUTIONS TO BUILD ON
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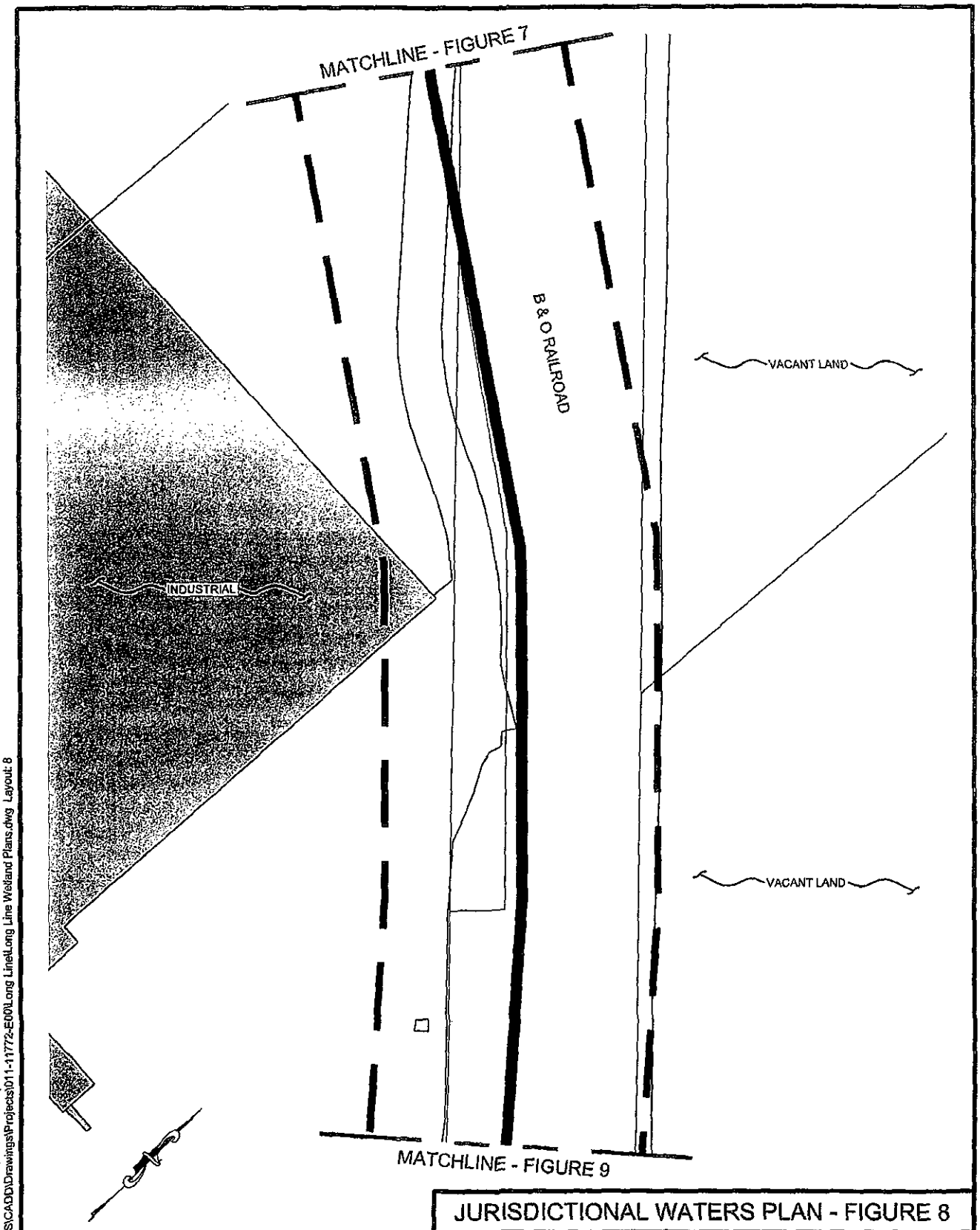
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:34am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 7



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 8

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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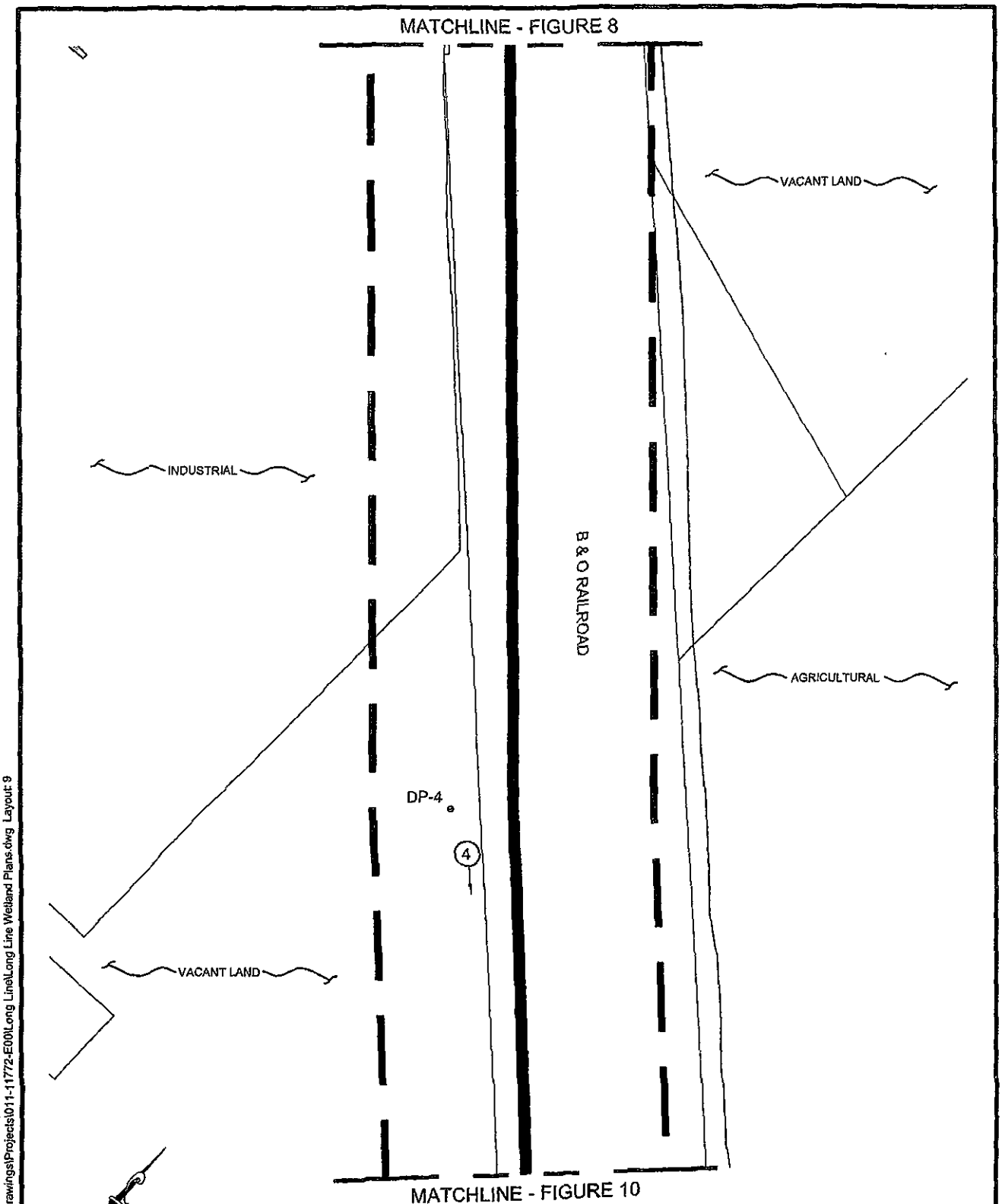
Cincinnati (513) 771-6471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 8



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 9

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB
Drawing Date: 12-22-08	Approved By: MES
Last Updated: 1-8-2009	Scale: 1" = 100' 1:1

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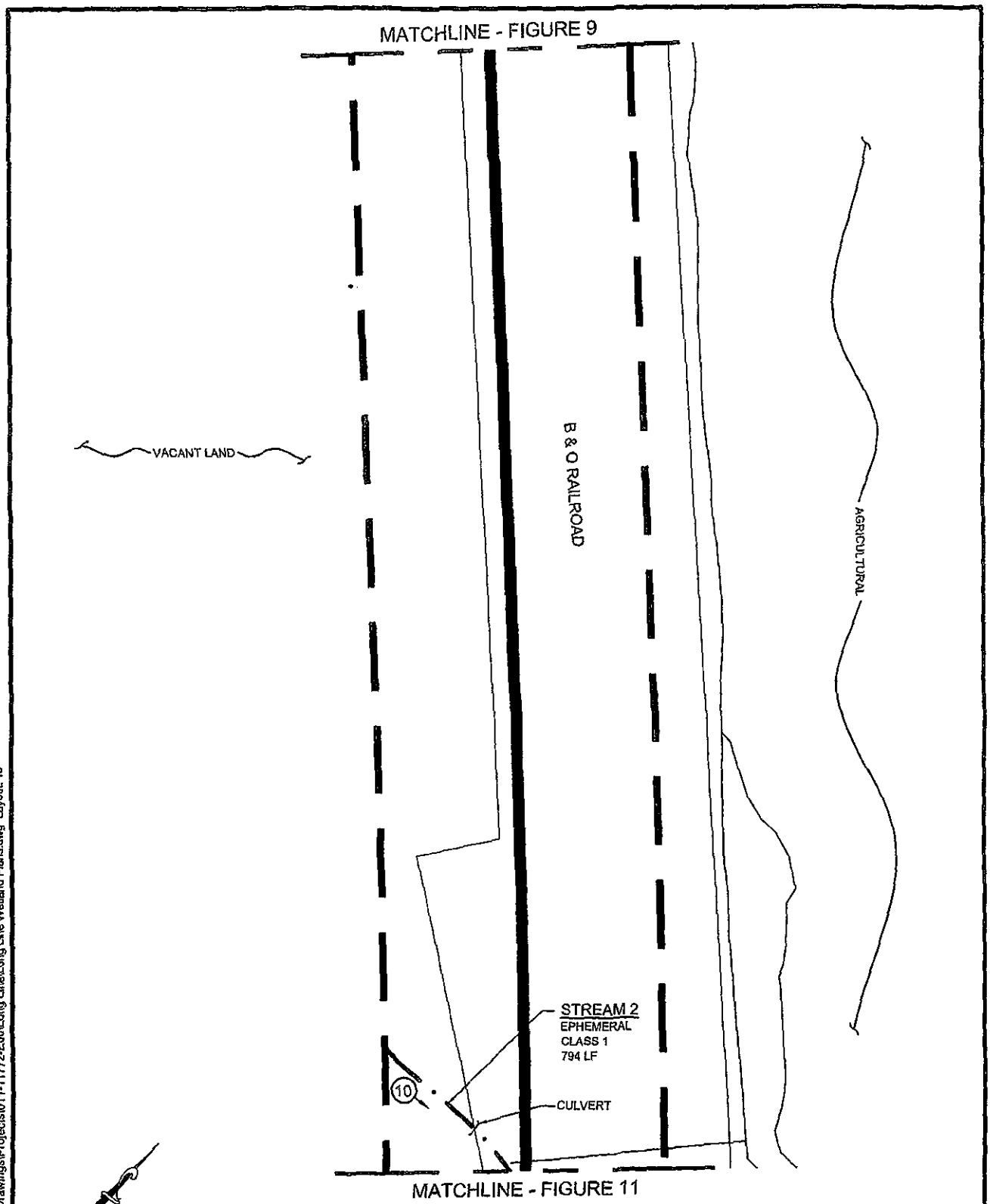
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 9



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 10

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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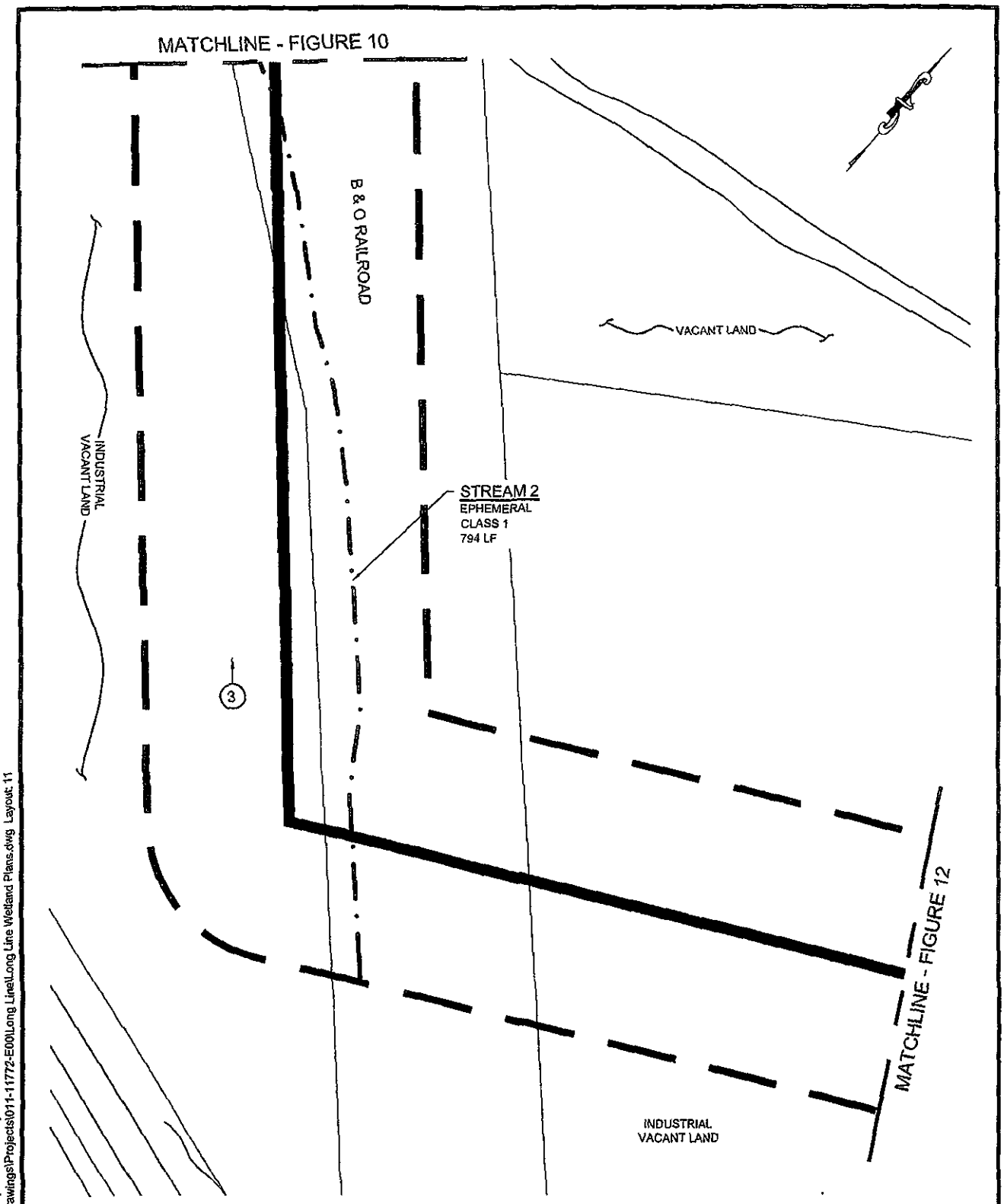
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 10



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 11

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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SOLUTIONS TO BUILD ON

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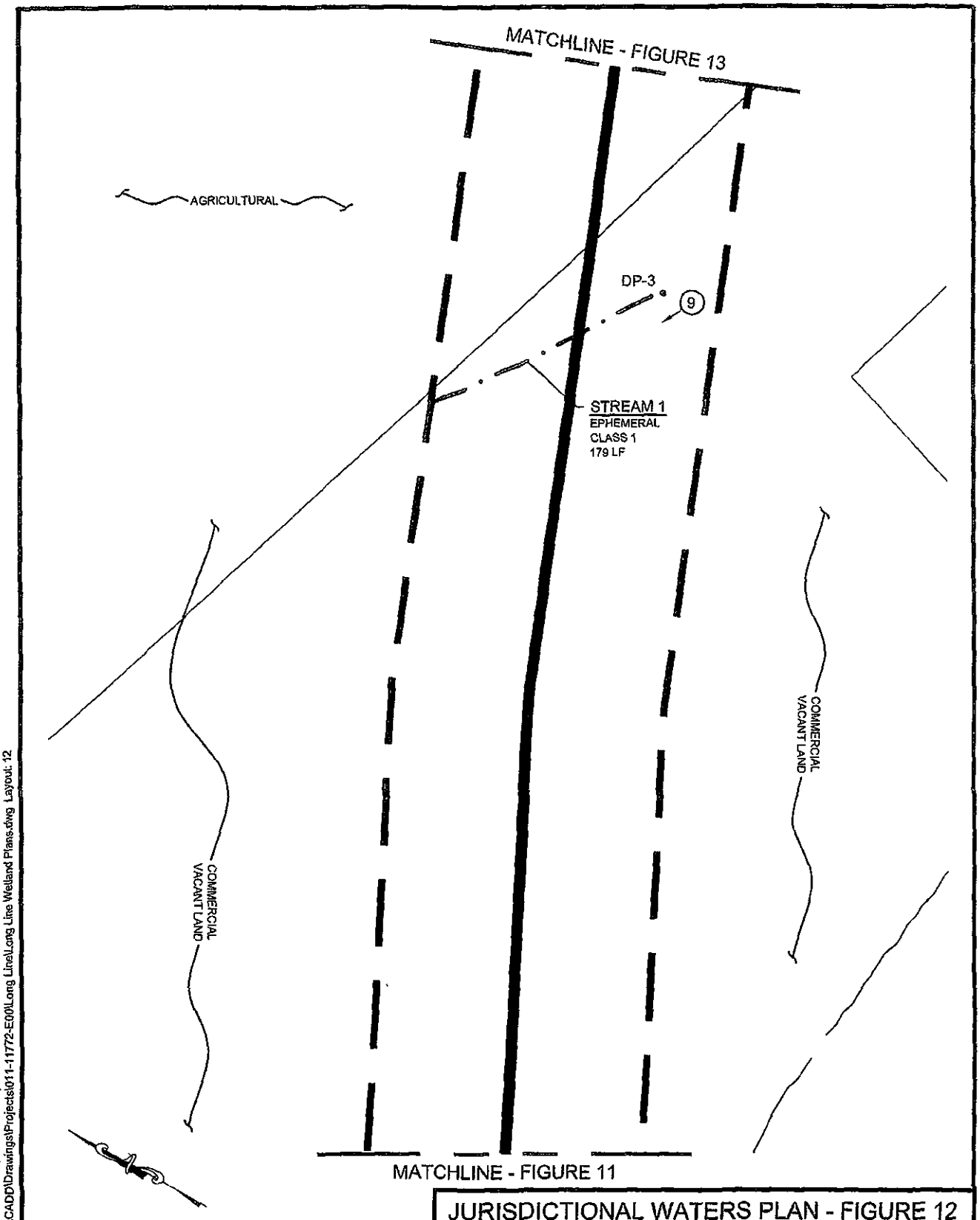
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 11



LEGEND

PREFERRED ROUTE

100' RADIUS

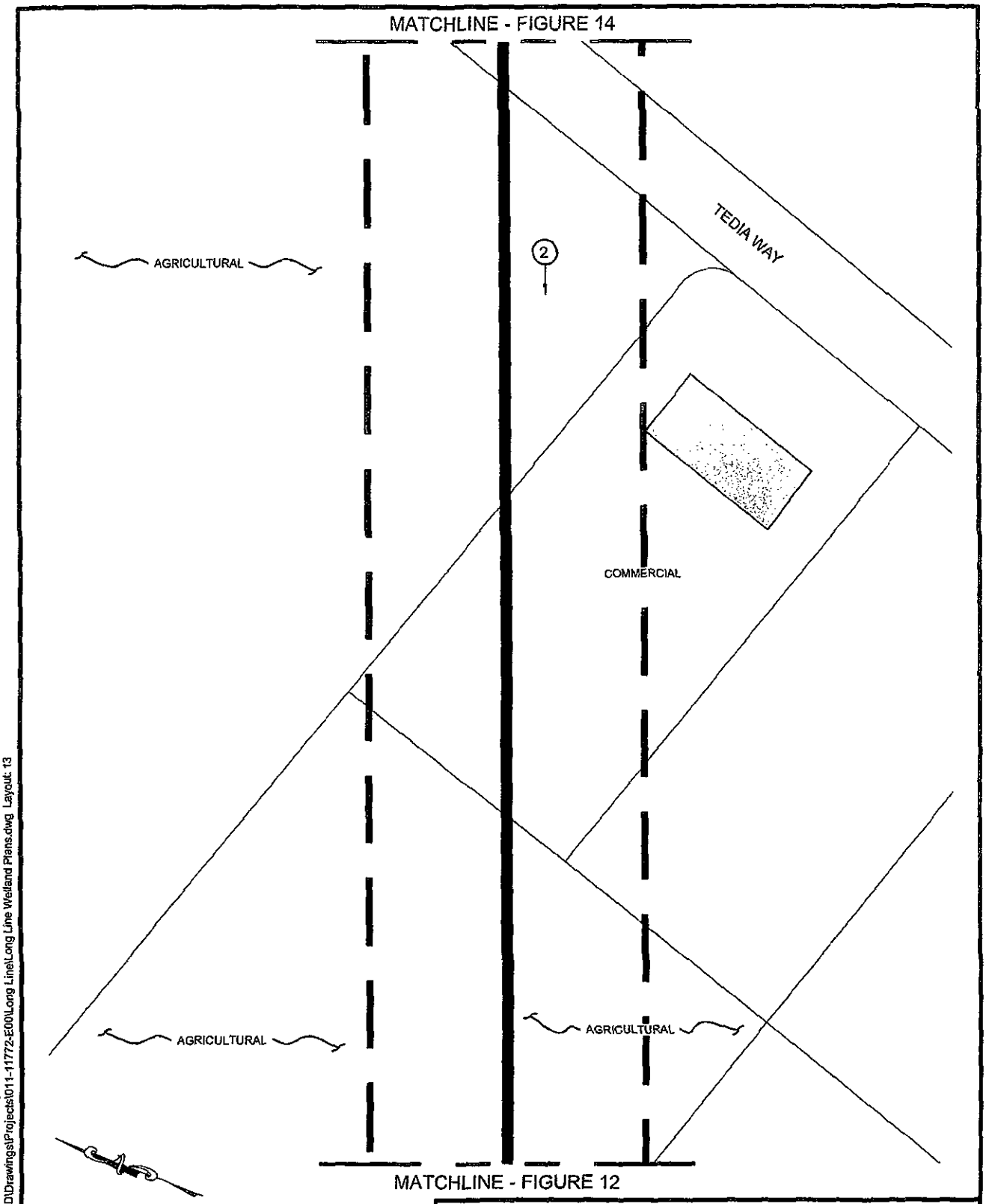
JURISDICTIONAL WATERS PLAN - FIGURE 12

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2228
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1911

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 12



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 13

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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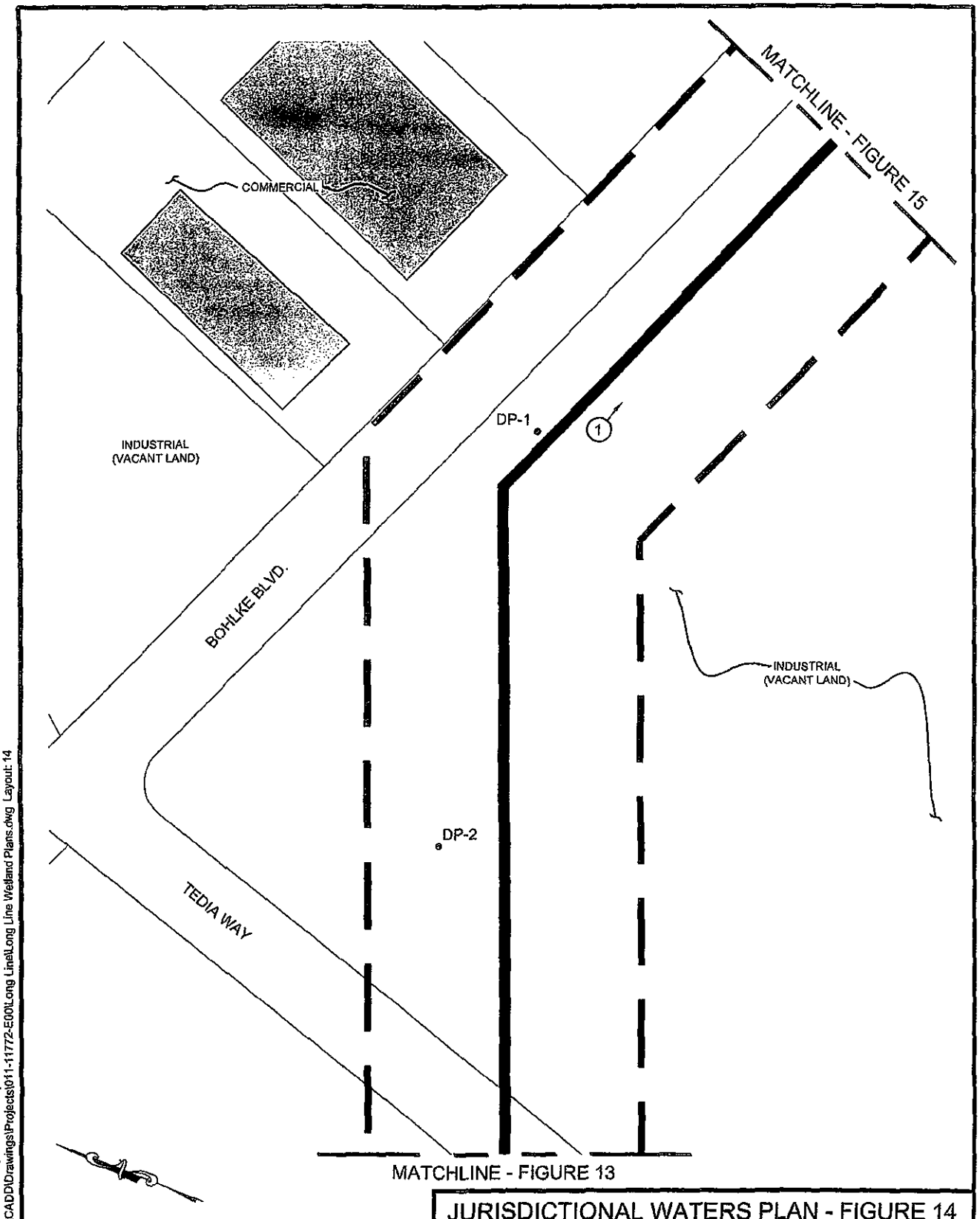
Cleveland (216) 901-1000
Cincinnati (513) 771-6471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 13



LEGEND

PREFERRED ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 14

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB
Drawing Date: 12-22-08	Approved By: MES
Last Updated: 1-8-2009	Scale: 1" = 100' 1:1

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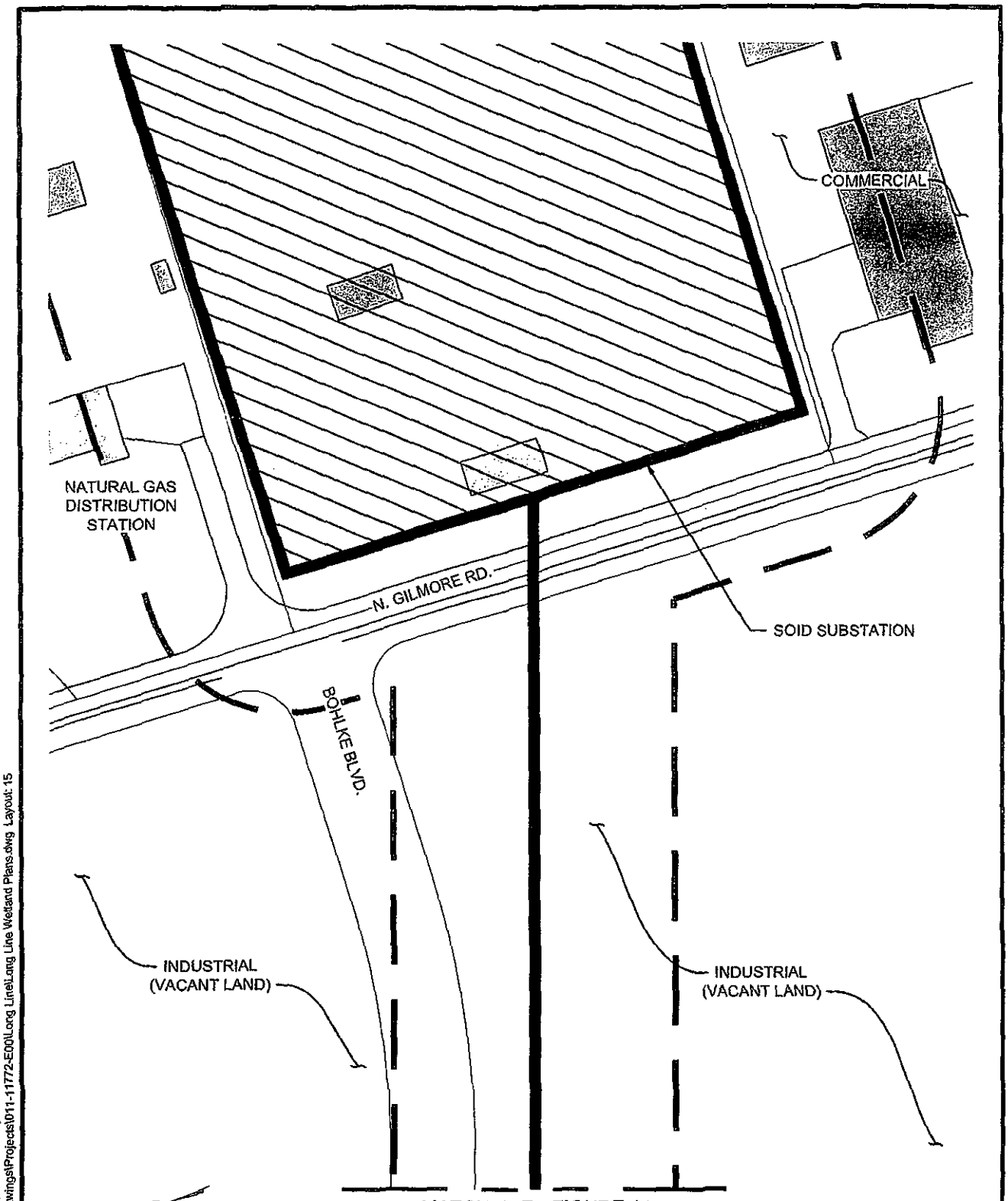
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 14



JURISDICTIONAL WATERS PLAN - FIGURE 15

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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SOLUTIONS TO BUILD ON
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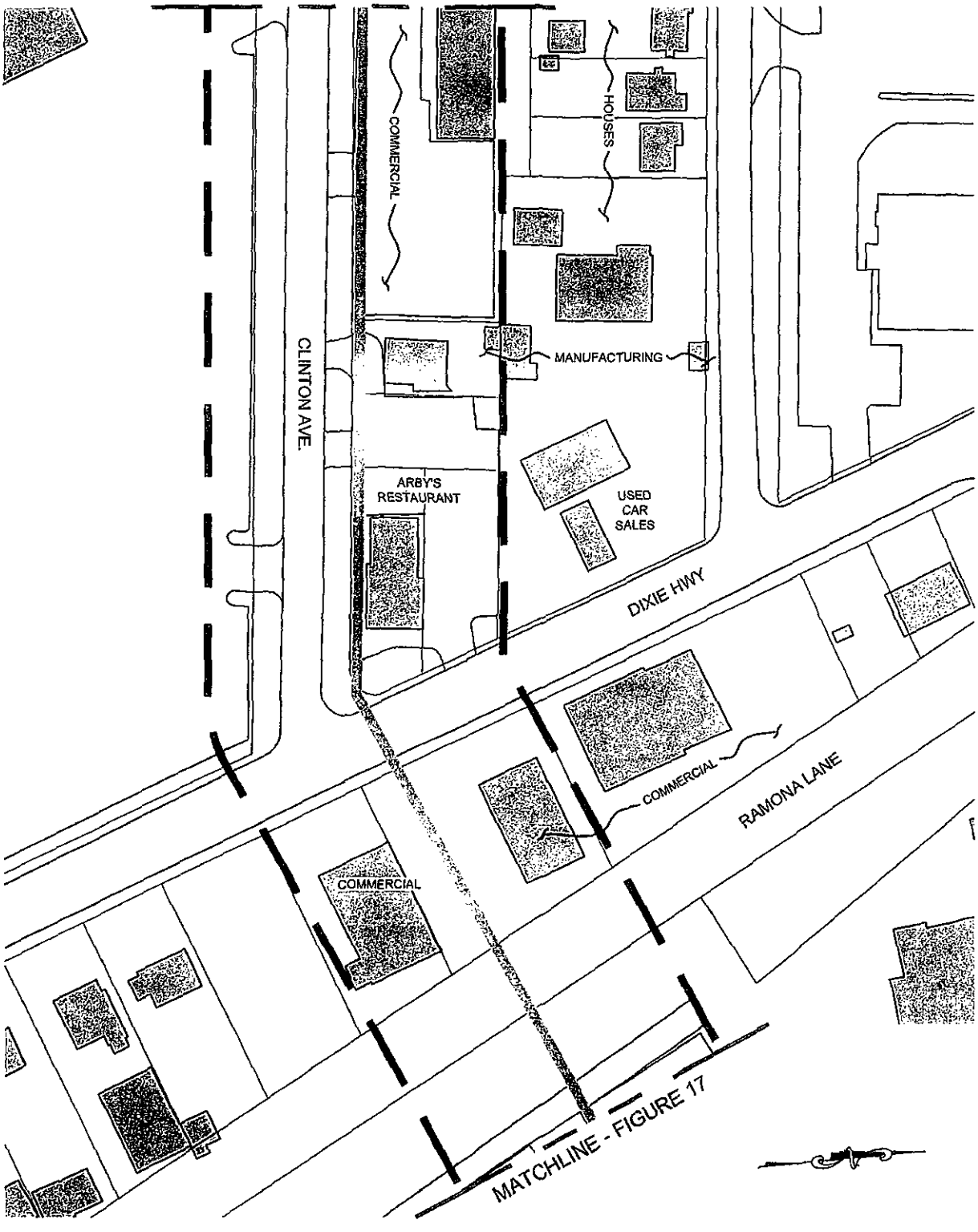
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 15



LEGEND

ALTERNATE ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 16

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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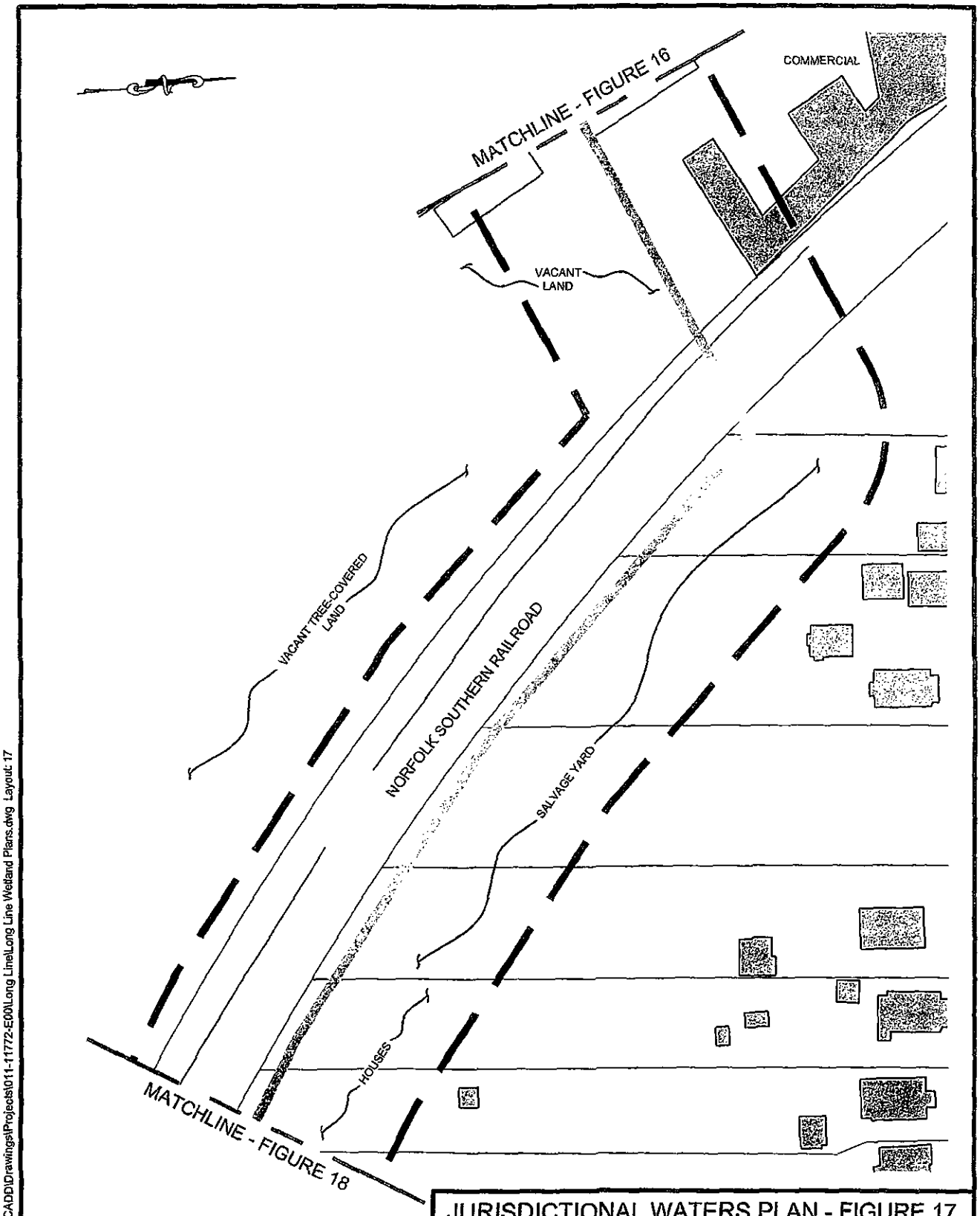
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Welland Plans.dwg Layout: 16



LEGEND

ALTERNATE ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 17

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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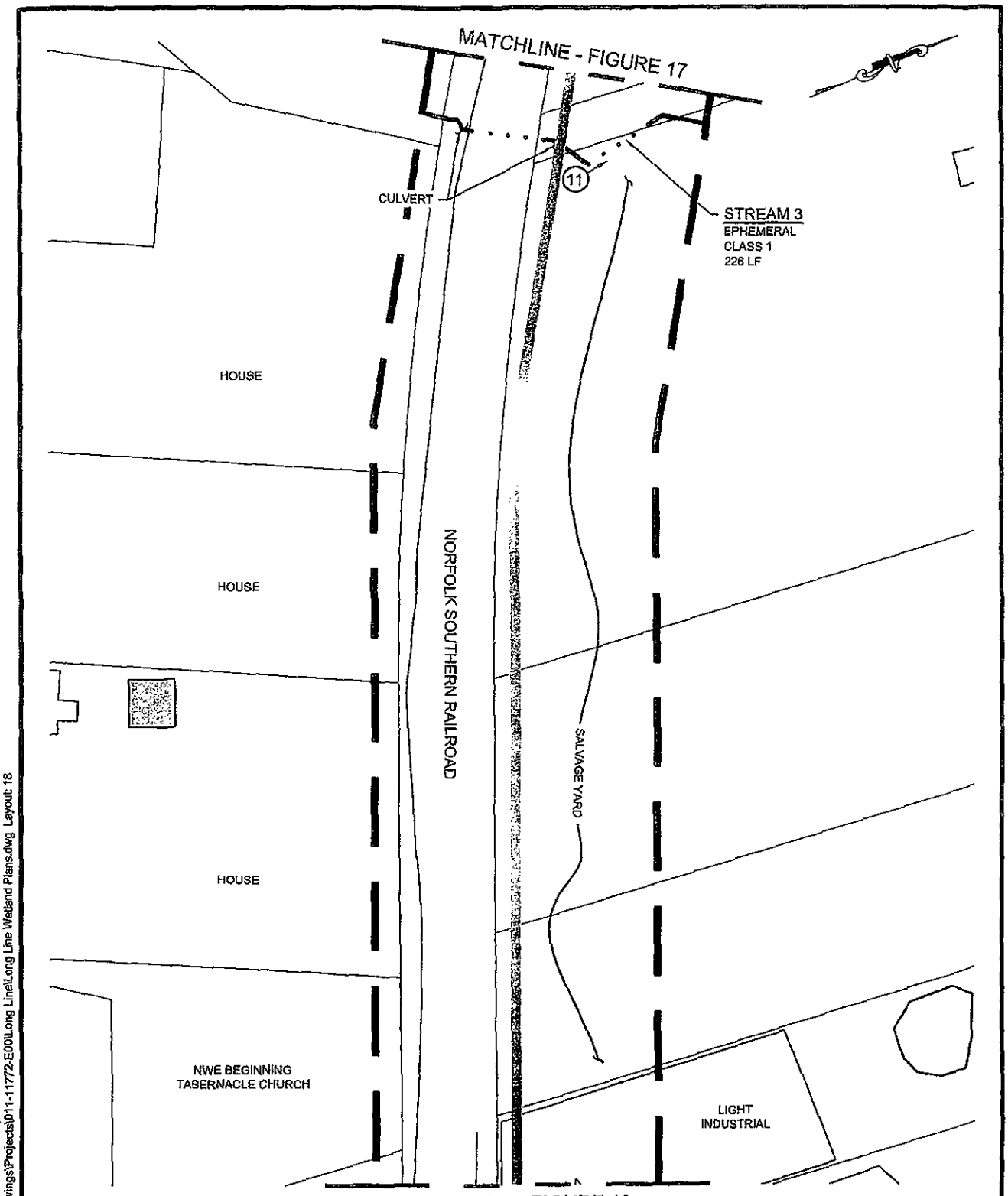
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: H:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 17



LEGEND

ALTERNATE ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 18

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB
Drawing Date: 12-22-08	Approved By: MES
Last Updated: 1-8-2009	Scale: 1" = 100' 1:1

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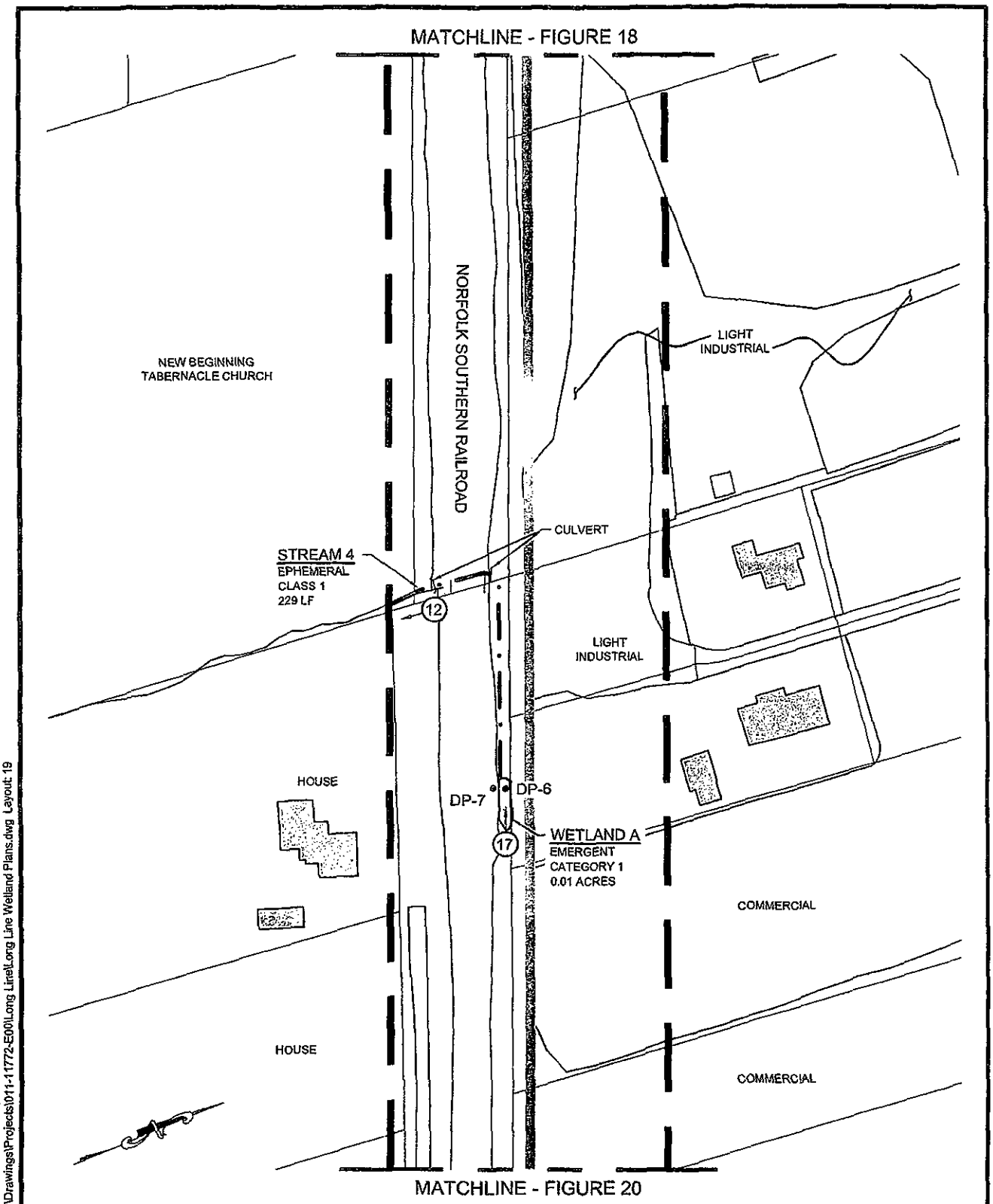
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:36am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 18



LEGEND

ALTERNATE ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 19

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB
Drawing Date: 12-22-08	Approved By: MES
Last Updated: 1-8-2009	Scale: 1" = 100' 1:1

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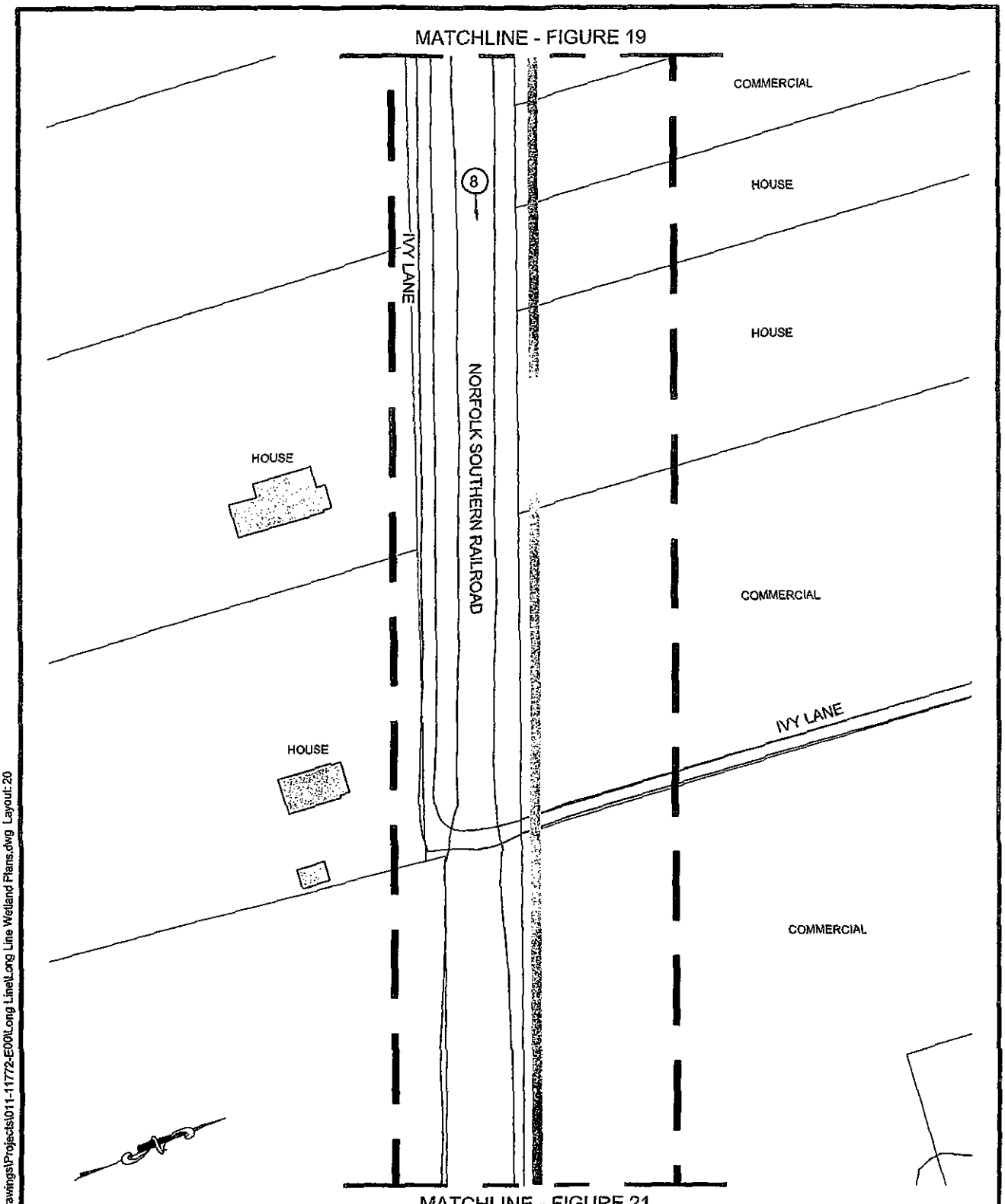
Cincinnati (513) 771-6471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:36am By: TMcKelvey
BBC&M Filename: h:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 19



LEGEND

ALTERNATE ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 20

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB
Drawing Date: 12-22-08	Approved By: MES
Last Updated: 1-8-2009	Scale: 1" = 100' 1:1

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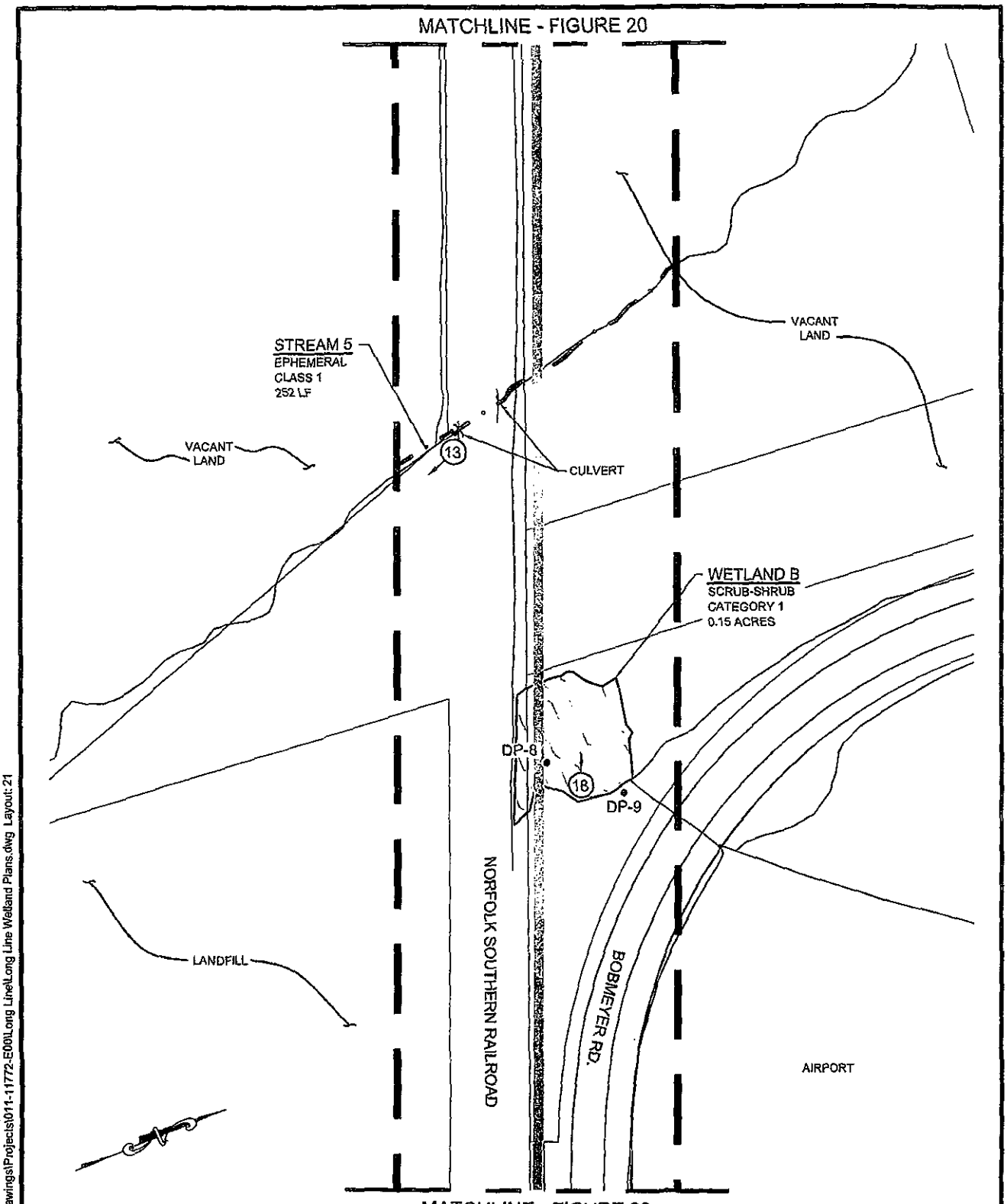
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:35am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 20



LEGEND

ALTERNATE ROUTE

100' RADIUS

JURISDICTIONAL WATERS PLAN - FIGURE 21

138 KV LONG LINE
HAMILTON, BUTLER CO., OHIO

Project: 011-11772-E00	Drawn By: NWB	
Drawing Date: 12-22-08	Approved By: MES	
Last Updated: 1-8-2009	Scale: 1" = 100'	1:1

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Dayton (937) 424-1011

Images: ~ZoningFairfield.jpg ~Aerial.tif
Xrefs: ~Long Line Base.dwg ~Aerial.dwg
File Last Updated: Jan 08, 2009
Plot Info: 1-8-2009 @ 10:36am By: TMcKelvey
BBC&M Filename: I:\DEPTS\CADD\Drawings\Projects\011-11772-E00\Long Line\Long Line Wetland Plans.dwg Layout: 21