June 15, 2010

**Brett McClaskie** 

Public Utilities Commission of Ohio 180 East Broad Street, 4th Floor Columbus, Ohio 43215-3793



**RECEIVED-DOCKETING DIV** 

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PUCO

Commission/Chief of Staff -- Finance & Services

### Re: City of Hamilton Substation No. 11 to Substation No. 4 138kV Transmission Line Letter of Notification Application (Case No. 10 - \$28\_-EL-BLN) Request for Expedited Treatment per DAC 4906-11-01(A)

Dear Mr. McClaskie:

Enclosed find Check No. 30910 made payable to Treasurer, State of Ohio, Ohio Power Siting Board, Fund 561, in the amount of \$2,000.00 for expedited treatment of the City of Hamilton Substation No. 11 to Substation No. 4 138 kV Transmission Letter of Notification Application, Case No. \_\_\_\_-EL-BLN.

If there are any questions regarding this application or the request for expedited treatment, please contact me at (614)540-1111 or rmeyer@amppartners.org.

On behalf of the City of Hamilton,

Randy Meyer **Director of Environmental Affairs** American Municipal Power, Inc.

This is to certify that the images appearing are an accurate and complete reproduction of a case file document delivered in the regular course of business. Date Processed 6-15-200 Technician\_//

cc: Kim Wissman, Executive Director, Ohio Power Siting Board and and a straight facilities. Siling and Eputrementation Jon Pawley, Power Siting Policy Advisor, Facilities, Siting and Environmental Analysis Division

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American Municipal Power Inc. 1111 Schrock Road, Suite 100 · Columbus, OH 43229 · www.amppartners.org Tel 614.540.1111 • Fax 614.540.1113

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### Letter of Notification to the Ohio Power Siting Board Case Number 10 - \_\_\_\_\_ - BLN

The City of Hamilton Electric Department Proposed Substation No. 11 to Substation No. 4 138 kV Transmission Line Project

June 15, 2010



### Letter of Notification to the Ohio Power Siting Board Case Number 10 - \_\_\_\_\_ - BLN

The City of Hamilton Electric Department Proposed Substation No. 11 to Substation No. 4 138 kV Transmission Line Project

### June 15, 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. 4 at 2940 Wulzen 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 April 2010 and June 2010. The results of these studies are included in the appropriate sections of this Letter of Notification where requested.

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. 4 138 kV Electric Transmission Line, City of Hamilton, Butler County, Ohio

### Prepared by:

Randy Meyer Director of Environmental Affairs American Municipal Power, Inc. (AMP) 1111 Schrock Road, Suite 100 Columbus, Ohio 43229



### Approved by:

Anthony Pochard, P.E. Manager of Transmission & Distribution Operations Hamilton Department of Electric 345 High Street, Suite 450 Hamilton, Ohio 45011



### Submitted to:

Ohio Power Siting Board 1800 East Broad Street Columbus, Ohio 43215-3793



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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
(B)General Information containing the following information:1
(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.
(2) If the proposed letter of notification project is an electric power
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(5) The anticipated construction schedule and proposed in-service date of
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(6) An area map of not less than 1:24,000 scale clearly depicting the facility's
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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, 4<sup>th</sup> 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. 4 138 kV Transmission Line Project. The project will consist of approximately 920 feet of single circuit 138kV transmission line on wood monopole structures occupying existing rightof-way (ROW) held by the City of Hamilton along Dixie Highway/SR 4 (north of Clinton Avenue) and Hooven Avenue. The line formerly connected Substation No. 11 to Substation No. 10. The re-route north of Clinton Avenue will connect existing Hamilton Substation No. 11 located at 8050 Gilmore Road with existing Hamilton Substation No. 4 located at 2940 Wulzen Avenue. Approximately 675 feet of existing 138 kV transmission line along the south side of Clinton Avenue will be abandoned. A map of the project vicinity is provided in Figure 1.

The proposed new transmission line meets the requirements for a Letter of Notification because the transmission line is within the types of projects defined by (1)(d) and (4)(a) of the Application Requirement Matrix for Electric Transmission Lines in Appendix A of Ohio Adm. Code 4906-1-01 which state:







(1) Rerouting or extension or new construction of single or multiple circuit electric power transmission line(s) as follows:

(d) Line(s) one hundred twenty-five kV and above, but less than three hundred kV, and not greater than 0.2 miles in length.

(4) Replacing electric power transmission line structure(s) with a different type of structure(s) or adding structure(s) within an existing electric power transmission line and:(a) Two miles or less of new right-of-way required.

The proposed new transmission line will operate at 138 kV and will involve the installation of approximately 920 feet (0.17 miles) of transmission line to the existing transmission line and five new poles.

### (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 A) 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. 4 138 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 a 138 kV transmission line from Substation No. 11 to Substation No. 10 in 2011.

Specifically, the Substation No. 11 to Substation No. 4 transmission line project is being undertaken to reduce load on Hamilton's 69 kV transmission system. In addition to improving transmission efficiency, this project will increase transmission 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 mega-Watt (MW) coal-fired power station and a small 1 MW hydroelectric plant within its corporation limits. Hamilton also owns and operates a 76 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 Cityowned 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 jurisdictional electric transmission lines and substations within 1,000 feet of the transmission line project centerline is 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.

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. 4 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. 4 transmission line is summarized below:

- Docket Letter of Notification Application with the OPSB: June 2010
- Obtain OPSB Approval: July 2010
- Design, Engineering, and Material Procurement for Upgrades to be Performed by Hamilton: July 2010 August 2010
- Advertise for Construction Bids: October 2010
- Award Construction Contract: December 2010
- Completion of Upgrades: March 2011
- Project In-Service Date/Commercial Operation: April 2011

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

	Figure 3 Construction and Operation Schedule of Substation No. 11 to Substation No. 4					
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- <del>T</del>	Dacket Letter of Notification Application with the OPSB: June 2010	Thu 4/1/10				
	Obtain OPSB Approval: July 2016	Thu 4/1/10				
<u>-</u>	Design, Engineering, and Material Procurement for Upgrades to be Performed by Hamilton: July 2010 – August 2010	Wed 3/31/10				
	Advertise for Construction Bids: October 2010	Thu 4/1/10				
	Award Construction Contract: December 2010	Wed 9/1/10				
8	Completion of Upgrades: Warch 2011	Thu 4/1/10				
~	Project in-Service Date/Commercial Operation: April 2011	Thu 4/1/10				
	30 Days Prior o Award of the Construction Contract - Consult with ODNR, Crane Creek Wildlife Research Station for updated status of bald eagle activity in the vicinity of the project	<b>Mon</b> 11/1/10				
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## (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.

Figure 4 is a 1:1,200 project map showing the transmission line with its origination and termination points. This map includes a color aerial photography background and stationing originating at the southwest corner of the Clinton Avenue and Dixie Highway (SR 4) Junction. The map also includes clearly identified major streets, roads, and highways near the project. To assist regulatory personnel and other interested parties with location and observation of the transmission route, driving directions to project are provided below:

- 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 Wulzen Avenue, the location of Substation No. 4. Informal parking is available along 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.

The entire transmission line route lies within existing electric utility right-of-way controlled by the City of Hamilton. No additional easements, options, and/or land use agreements are necessary to construct this project.

### (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. 4 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



FIGURE A the regional transmission system is out of service, the line could experience 429 Amperes of current per phase. The maximum rated current capacity of the line under emergency conditions is 530 Amperes per phase in the summer and 530 Amperes per phase in the winter. 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 1** below.

### Table 1 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	530	530

### Estimated Number and Types of Structures

Pole top construction standards for each structure type are provided in Appendix B. The number and type of replacement pole structures are summarized in Table 2 below.

### Table 2Estimated Number and Types of Existing and Replacement Pole StructuresHamilton Substation No. 11 Connection

Structure Type	New	Replacement	Existing
69301	1	0	0
69302	2	0	0
69305	2	0	0

Right-of-Way and Land Requirements

Since the transmission line will be located entirely within existing right-of-way, 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. 4 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 3 and 4** below. The maximum electric field for any condition on any section of the line is 4.5 % 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.

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading (Single Contingency Outage)
Current (Amperes)	177	530	429
Electric Field at ROW Edge (kV/m)	0.674	0.674	0.674
Maximum Electric Field at Centerline (kV/m)	0.517	0.51	0.517

# Table 3Calculated Electric Field ValuesDixie Highway (SR 4) Section

### Table 4 Calculated Electric Field Values Hooven Avenue Section

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading (Single Contingency Outage)
Current (Amperes)	177	530	429
Electric Field at ROW Edge (kV/m)	0.261	0.261	0.261
Maximum Electric Field at Centerline (kV/m)	0.341	0.341	0.341

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 5 and 6** below.

### Table 5 Calculated Magnetic Field Values Dixie Highway (SR 4) Section

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading
Current (Amperes)	177	530	429
Magnetic Field at Row Edge (mG)	4.07	20	15.1
Maximum Magnetic Field at Centerline (mG)	3.56	18.2	13.7

### Table 6 Calculated Magnetic Field Values Hooven Avenue Section

	Normal Maximum Line Loading	Winter Normal Conductor Rating	Emergency Line Loading
Current (Amperes)	177	530	429
Magnetic Field at Row Edge (mG)	9.01	24.47	19.71
Maximum Magnetic Field at Centerline (mG)	8.25	24.57	19.35

(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-ofway 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 minimizing 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 project are identified in **Table 7**. Total project cost is expected to be \$190,555 (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 7Estimated Capital Costs

Project Accounts	2010 USD (\$)
Material	73.375
Labor	117,180
Total Project Cost	190,555

(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 Clinton Avenue to Substation No. 4 is dominated by commercial land use. There are three residential parcels on the south side of Hooven Avenue (opposite of the transmission line route). The residence adjacent to Substation No. 10 also has a commercial structure on the parcel.

The construction and operation of the transmission line is not expected to have a significant impact on existing land uses, including urban residences, as the area is already impacted by numerous above grade utility structures. 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 entirely within the City of Hamilton and 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 Butler County Census Tract 2. Population figures derived from U.S. Census published data for this Census Tract and the broader region are summarized in **Table 8** below.

Location	1990 Census	1990 Population Density	2000 Census	2000 Population Density
City of Hamilton, Ohio	61,368	2,777	60,690	2,746
Butler County, Ohio	291,479	623.8	332,807	712.2
Census Tract 2	5,075	3,476	4,287	2,936

### Table 8Study Area Demographics

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.

No agricultural land is affected by this project.

(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 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 25 May 2010. A copy of the transmittal letter and OVAI's report is provided in **Appendix C**.

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

"No previously recorded cultural resources (OAIs, OHIs, or NRHP properties/districts) are located along, adjacent to, or within view of this segment of the proposed Substation No. 11 to Substation No. 4, 138 kV Overhead Transmission Line project in the City of Hamilton, Fairfield Township, Butler County, Ohio. Likewise, no historic-era structures are indicated within or adjacent to the project

corridor on the historic maps consulted for this study. Given that the proposed project follows existing power lines within a developed area, it is unlikely to have an impact on known cultural resources within the region. 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 D**.

Leaders contacted include the chief executive officers (CEO's) for the 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. The 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.

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 and City of Hamilton residents and 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 E**. 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

A 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-permittees.

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 no records of rare or endangered species within one mile of the project area. USFWS anticipates no impact on federally listed endangered, threatened, or candidate species, or their habitats. A complete copy of DNAP's and USFWS' response is provided in **Appendix F**.

ODNR's Division of Wildlife (DOW) reported the project is within the range of the state and federal endangered Indiana bat (*Myotis sodalis*); state threatened bald eagle (*Haliaeetus leucocephalus*); state endangered blue corporal dragonfly (*Ladona deplanata*), Kramer's cave beetle (*Pseudoanophthalmus kramerei*), the Ohio cave beetle (*Pseaudoanophthalmus ohioensis*), and the cave salamander (*Eurycea lucifuga*).

The DOW determined:

- 1. 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;
- 2. Prior to beginning construction, Hamilton must obtain an updated status of bald eagle activity in the project area. If a nest is located within 0.5 miles of the project site, coordination with the Division of Wildlife is required;
- 3. Impacts to the blue corporal dragonfly are unlikely due to its mobility;
- 4. Impacts to Kramer's cave beetle and the Ohio cave beetle are unlikely because cave habitat is already protected by the Ohio Cave protection Law (ORC 1517.21); and
- 5. Impacts to the cave salamander are unlikely due to the developed nature of the area that will be disturbed during construction.

A complete copy of DOW's response is provided in Appendix F.

(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 dedicated state nature preserves or scenic rivers at the project site. We are also unaware of any unique ecological sites, geologic features, animal assemblages, state parks, state forests or state wildlife areas within a one mile radius of the project area." As mentioned above, a copy of the DNAP response is provided in **Appendix F**.

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, wetlands or streams near the transmission route.

The proposed transmission line is not located within a floodplain according to the Butler County Floodplain Map published by FEMA, ODNR, and the Butler County Auditor's Office. A copy of the Butler County Floodplain Map is included in **Appendix G**.

(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

Hamilton Electric System Strategic Plan

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# 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





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# 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 3<sup>rd</sup> transmission link to national grid.
- Provides reserve capacity for future growth.
- Allows for future generation.
- Allows for future connection to PJM.

# Questions?

## Appendix B Pole Top Construction Standards





## 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

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# 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				
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				
	k	·					

	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 ELECTRICAL STANDARD MATERIAL LIST

ITEM	QUANTITY	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	8	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	REV:	REV BY:
60 - 90 DEGREE ANGLE VERTICAL POLE CONSTRUCTION	9/4/2009	JLM

Appendix C Cultural Resource Investigation Documentation

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May 25, 2010

David Snyder, Ph. D. Archaeology Reviews Manager Resource Protection and Review Ohio Historic Preservation Office 1982 Velma Avenue Columbus, Ohio 43211-2497

#### **Re:** A Phase I Cultural Resource Literature Review for the Substation No. 11 to Substation No. 4, 138 kV Overhead Transmission Line Project, City of Hamilton, Butler County, Ohio

Dear Dr. Snyder:

The City of Hamilton is preparing to submit a Letter of Notification to the Ohio Power Siting Board for a 925 foot 138 kV electric transmission line project within its city limits. To satisfy Ohio Administrative Code Rule 4906-11(D)(3), a Phase I Cultural Resource Study was performed by Ohio Valley Archaeology, Inc. (OVAI). Because Hamilton intends to request an expedited review of the Letter of Notification, I am providing you with an advance copy of OVAI's report.

As indicated on page 6 of OVAI's report, the City of Hamilton believes this project will not have an impact on known cultural resources and is unlikely to impact archaeological sites. If you have any questions about the report, you may contact me at <u>meyer@amppartners.org</u> or (614) 540-1111.

On behalf of the Sity of Hamilton,

Randy Meyer Director of Environmental Affairs

cc: Alan McIntire, City of Hamilton

Attachment

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Ar nakan Minikipal Pewer in 1011 schrock Road, State 100 – Cloanadous, OU 43229 – Swwaanopartnersorg 1161 614,540,1111 – Fax 614,540,1113 OVAI Contract Report #2010-24

### A PHASE I CULTURAL RESOURCE LITERATURE REVIEW FOR A SEGMENT (APPROXIMATELY 1,050 LINEAR FEET) ALONG THE PROPOSED SUBSTATION NO. 11 TO THE SUBSTATION NO. 4, 138 KV OVERHEAD TRANSMISSION LINE, FAIRFIELD TOWNSHIP, BUTLER COUNTY, OHIO

By

Stephen M. Biehl

May 8, 2010

Ohio Vailey Archaeology, Inc. 4889 Sinclair Road, Suite 210 Columbus, Ohio 43229 www.ovacltd.com



OVAI Contract Report #2010-24

## A PHASE I CULTURAL RESOURCE LITERATURE REVIEW FOR A SEGMENT (APPROXIMATELY 1,050 LINEAR FEET) ALONG THE PROPOSED SUBSTATION NO. 11 TO THE SUBSTATION NO. 4, 138 KV OVERHEAD TRANSMISSION LINE, FAIRFIELD TOWNSHIP, BUTLER COUNTY, OHIO

By

Stephen M. Biehl

#### **Prepared** for:

American Municipal Power, Inc. (AMP) 1111 Schrock Road, Suite 100 Columbus, OH 43229

Prepared by:

Ohio Valley Archaeology, Inc. 4889 Sinclair Road, Suite 210 Columbus, Ohio 43229 (614) 436-6926

Jun 702-

Albert M. Pecora Ph.D., RPA Principal Investigator May 8, 2010

Lead Agency: Ohio Power Siting Board [OAC 4906-11-01(D)(3)]

#### INTRODUCTION

The following literature review was completed at the request of Randy Meyer of American Municipal Power, Inc. This review is designed to list and summarize known or previously recorded cultural resources within 1.0 km of an approximately 1,050 linear ft segment of the proposed Substation No. 11 to the Substation No. 4, 138 kV Overhead Transmission Line project, City of Hamilton, Fairfield Township, Butler County, Ohio (Figures 1-5).

Previously recorded cultural resources are the product of isolated professional surveys and amateur archaeology. Ohio has not been systematically surveyed to identify and record all cultural resources. Because of this, the literature review cannot determine if the proposed project will impact undocumented cultural resources, including National Register eligible properties. That is, we can only determine the presence of cultural resources that have been previously recorded and documented at the Ohio Historic Preservation Office, Columbus. The nature of the terrain, coupled with historic-era map information and demographic location (e.g., urban, rural, etc.), does help in determining the potential for previously undocumented cultural resources at any given location.

#### **PROJECT DESCRIPTION**

The proposed project includes the installation of overhead power lines with replacement, 80 ft high poles along an approximately 1,050 linear ft segment of the Substation No. 11 to the Substation No. 4, 138 kV Overhead Transmission Line project (Figures 2-5). The proposed 1,050 linear ft project corridor is situated in a mixed residential/light industry/commercial area along the north side of Hooven Avenue and the west side of Dixie Highway/State Route (SR) 4 (Figures 2 and 5). The transmission line will extend from the south-central portion of the proposed Substation No. 4 location and follow along the north side of Hooven Avenue before turning south-southeast along the west side of Dixie Highway/SR 4 (Figure 5; Plates 1-11). The portion along Hooven Avenue is located within the current road right-of-way, which also has other modern utilities installed along its course (Plates 8-11). At the intersection of Hooven Avenue and Dixie Highway/SR 4, the project corridor turns south-southeast along the west side (right-of-way) of the road before terminating at the south side of the intersection of Clinton Avenue and Dixie Highway/SR 4, where the project corridor will meet-up with the existing 138 kV Transmission Line to Substation No. 11 (Figure 5; Plates 1-7). This segment of the project corridor along the west side of Dixie Highway/SR 4 is entirely within view of modern commercial properties (Figure 5; Plates 1-7).

<u>Project Corridor</u>: No National Register of Historic Places (NRHP) properties are located within 1.0 km of the project corridor. One previously recorded archaeological site (33Bu233) is located to the northeast within the Butler County Regional Airport and will not be impacted by the proposed project (Figure 2). Eleven Ohio Historic Inventory (OHI) structures have been documented within 1.0 km of the project corridor (Figure 2).



None of these will be impacted by the proposed project. It is unlikely that the proposed project will have a visual impact on any of the OHIs due to existing power line poles, the railroad, and other existing modern development.

#### Soils

One soil association is mapped for the proposed project corridor and includes Eldean-Ockley (USDA-SCS 1980). The Eldean-Ockley association is described as "deep, nearly level to moderately sloping, well drained soils that mostly have a fine or moderately fine textured subsoil; formed mainly in glacial outwash" (USDA-SCS 1980:9). One specific soil type has been mapped for the project corridor and includes Urban land-Eldean complex (UpA), nearly level (USDA-SCS 1980).

The Urban land-Eldean complex (UpA) is described as consisting of both the Urban land soils (50-85%) and the well drained Eldean soils, which can consist of upwards of 50% Eldean soils but are usually intermixed beyond practical separation delineation. Typically, this soil type is found near the urban built-up areas of towns and cities such as Hamilton and Middletown and around large industrial complexes (USDA-SCS 1980). This soil type has a low potential to contain intact archaeological deposits, especially prehistoric sites, since the soils are comprised of the Urban land complex. Historic-era cultural materials may be present, but may have questionable contexts and/or display mottled (disturbed) characteristics.

#### LITERATURE REVIEW

The following literature review examines and summarizes the following documents and maps. The Ohio Archaeological Inventory (OAI), the Ohio Historic Inventory (OHI), the National Register of Historic Places files, and the Cultural Resource Management (CRM) reports, which are kept on file at the Ohio Historic Preservation Office (OHPO), are current as of the date of this report.

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

#### Archaeological and Historic Records for Project Area and Surrounding Region

*Mills' Atlas (1914):* Mills (1914) recorded 251 archaeological sites in Butler County. These sites include mounds (n=221), enclosures (n=24), village site (n=1), burials (n=4), and cemetery (n=1) (Mills 1914). The majority of these sites are located along the Great Miami River, with most of these along the west side. A number of these sites are also found along the main tributaries of the Great Miami River, which include Sevenmile Creek, Fourmile Creek, and Indian Creek. Twenty-five of these sites are located within Fairfield Township and include mounds (n=17), enclosures (n=7), and cemetery (n=1). None of these sites are located within, adjacent to, or within view of the proposed project.

**Ohio** Archaeological Inventory (OAI): One archaeological site has been documented within the 1.0 km study radius (Figure 2). Site 33Bu233 is listed as an unassigned prehistoric lithic scatter that was documented during a professional cultural resource management survey (White 1979). This site is located near the Butler County Regional Airport and is not located within, adjacent to, or within view of the current project corridor.

**Ohio Historic Inventory:** Eleven previously recorded Ohio Historic Inventory (OHIs) structures are located within the 1.0 km study radius (Table 1; Figure 2). None of these structures are located within, adjacent to, or within view of the current project corridor.

*National Register of Historic Places (NRHP):* No NRHP properties or districts are located within the 1.0 km study radius.

**Cultural Resource Management Reports:** Two Cultural Resource Management (CRM) Literature Review reports (Biehl 2008a, 2008b) and one Phase I CRM survey (White 1979) have been conducted within the 1.0 km study radius (Figure 2). The Phase I CRM survey (White 1979) does not overlap the current project corridor (Figure 2). No Phase II site assessments or Phase III data recovery surveys have been conducted within the 1.0 km study radius.

**Historic-era** Atlas: The 1875 Combination Atlas Map of Butler County, Ohio (Everts 1875) indicates that the current project corridor is situated along the property line of O. Moud and J. Burke (Figure 3). No structures appear to be situated within or adjacent to the project corridor (Figure 3).

15' USGS topographic quadrangles: The current project corridor does not appear to cross-over any structure locations that are indicated on the 1915 (surveyed 1903 & 1915) Hamilton, Ohio 15' USGS topographic map (Figure 4).

**7.5' USGS topographic quadrangles:** On the current 1965 (PR 1981) Greenhills, Ohio 7.5' USGS topographic map the project corridor is situated within the red-shaded portion for the City of Hamilton (Figure 2).

ОНІ	Name	Address	Style	Date	UTM East: Zone 16	UTM North: Zone 16
BUT-413-09	John W BUT-413-09 Lachenmaier House		Dutch Colonial Revival	1923	710563	4359783
BUT-414-09	Charles H Klippel House	707 Corwin Ave	Bungalow	1929	710595	4359783
BUT-415-09	Joseph J Tutas House	908 Corwin Ave	Bungalow	1929	710888	4359806
BUT-476-09	C Arthur Schwab House	900 Hooven Ave	Bungalow	1927	710847	4360150
BUT-477-09	Thomas Gilmore Jr House	925 Hooven Ave	Colonial Revival	1923	710898	4360110
BUT-765-09	Howard M Johnson House	2732-2736 Benninghofen Ave	Bungalow	1925	710580	4360389
BUT-768-09	SE Corner Benning Hofen & Chas	SEC Benninghofen & Chas	Art Moderne	1935	710570	4359870
BUT-769-09	John C Unzicker House	2863 Benninghofen Ave	Not given	1915	710555	4360270
BUT-772-09	Fred G Trowbridge House	801 Minor Ave	Bungalow	1 <b>925</b>	710705	4360216
BUT-773-09	William H Jacobs House	833 Minor Ave	Bungalow	1915	710810	4360210
BUT-877-09	Vernon Gase House	1125 Tiffin Ave	Vernacular	1947	711169	4359918

Table 1. Previously recorded structures (OHIs) within the 1.0 km study radius.

#### Summary

No previously recorded cultural resources (OAIs, OHIs, or NRHP properties/districts) are located along, adjacent to, or within view of this segment of the proposed Substation No. 11 to Substation No. 4, 138 kV Overhead Transmission Line project in the City of Hamilton, Fairfield Township, Butler County, Ohio. Likewise, no historic-era structures are indicated within or adjacent to the project corridor on the historic maps consulted for this study. Given that the proposed project follows existing power lines within a developed area, it is unlikely to have an impact on known cultural resources within the region. No further work is recommended for the project.

#### **REFERENCES CITED**

Biehl, Stephen M.

- 2008a A Phase I Cultural Resource Literature Review for the Substation No. 4 to Substation No. 13, 138 kV Overhead Transmission Line Project, Fairfield Township, Butler County, Ohio. OVAI contract report #2008-78. Ohio Valley Archaeology, Inc., Columbus.
- 2008b A Phase I Cultural Resource Literature Review for the SOID Substation to Substation No. 10, 138 kV Overhead Transmission Line Project, Fairfield Township, Butler County, Ohio. OVAI contract report #2008-81. Ohio Valley Archaeology, Inc., Columbus.

#### Everts, L. H.

1875 Combination Atlas Map of Butler County, Ohio. Philadelphia.

#### Mills, William C.

1914 An Archeological Atlas of Ohio. Ohio State Archaeological and Historical Society, Columbus.

United States Department of Agriculture, Soil Conservation Service (USDA-SCS)

1980 Soil Survey of Butler County, Ohio. United States Department of Agriculture, Soil Conservation Service in cooperation with ODNR, Division of Lands and Soil, and the Ohio Agricultural Research and Development Center.

#### White, Claude F.

1979 An Archaeological Impact Assessment of the Hamilton Airport Improvements, Hamilton, Butler County, Ohio.



Figure 1. State of Ohio map showing general location of the project area.



Figure 2. Portions of the 1965 (PR 1988) Hamilton and the 1965 (PR 1981) Greenhills, Ohio 7.5' USGS topographic map showing the location of the project corridor, previously recorded cultural resources, and a previously surveyed area.





Figure 3. Portion of the 1875 Combination Atlas Map of Butler County, Ohio (Everts 1875) showing the location of the project area.



Figure 4. Portion of the 1915 (surveyed 1903 & 1915) Hamilton, Ohio 15' USGS topographic map showing the location of the project area.



Figure 5. Photo-keyed aerial of the project corridor.



Plate 1. View north along Dixie Highway/SR 4 from Station 0+00.



Plate 2. View south on Dixie Highway/SR 4 from Station 0+00.



Plate 3. View of Cambridge Plaza from Station 0+00.



Plate 4. View of used car lot looking east from Station 0+00.



Plate 5. View looking north along Dixie Highway/SR 4 from Hooven Avenue/Dixie Highway intersection (Station 3+75).



Plate 6. View looking east from Hooven Ave/Dixie Highway intersection (Station 3+75).



Plate 7. View looking south along Dixie Highway/SR 4 from Hooven Avenue/Dixie Highway intersection (Station 3+75).



Plate 8. View looking west toward Substation No. 4 along the north side of Hooven Avenue (Station 3-75).



Plate 9. View of residential/commercial properties along the south side of Hooven Avenue (Station 6+65).



Plate 10. View of residential/commercial properties along the south side of Hooven Avenue (Station 6+65).



Plate 11. View looking east along the north side of Hooven Avenue from northeast corner of Wulzen and Hooven Avenues.

# Appendix D

**Community Leaders and Organizations Contact List** 

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		870-0300 or 779-5400
		http://johnboehner.house.gov
		Washington, D.C. 20515-3508
		1011 Longworth House Office Bldg.
		U.S. House of Representatives
		U.S. Representative Boehner
		crankd@butlercountyohio.org
		887-3192
		315 High St., Hamilton 45011
		Butler County Recorder D. Crank
		hixn@puttercountyphip.org
		88/-3181
		SID Fligh St., Hamilton 45011
		Butler County Treasurer Nancy Nix
		reynoldsr@butlercountyohio.org
		887-3154
		315 High St., Hamilton 45011
		Butler County Auditor R. Reynolds
		513-852-2826
		Cincinnati, OH 45202
		1 West Fourth St, Suite 425
		Rose Vesper
		Governor's Regional Representative
		614-466-7662 (t)
		614-466-8072
		Cols., OH 43215
		State House, Room 42
		sd04@senate.state.oh.us
		Ohio State Senator Gary Cates
		014-044-0721
		11 3. TIGH SL, COIS., CH 40213
		Kitte Center
		district54@ohr.state.oh.us
		Ohio State Representative Combs
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		867-5383
		city council@fairfield-city.org
		Fairfield, Oh 45014
		5300 Pleasant Ave.
		Angie Johns
		City of Fairfield Clerk of Council
		mayor@fairfield-city.org
		Fairfield, Oh 45014
		5300 Pleasant Ave.
		Ron D'Epifanio
		City of Fairfield Mayor
		887-0444
		2820 E. Airport Rd., Fairfield 45014
		Ron Smith
		Butter County Regional Airport
		621-9325 (f)
		621-6300
		plan@oki.org
		Cincinnati, OH 45202
		/20 E. Pete Rose way , Suite 420
		Mark Policinski, Exec. Director
		OKI Degingel Dispains Commission
		684-3265
		http://voinovich.senate.gov
		Wasnington, U.C. 20010-3004
		IIS Senate
		U.S. Senator Voinovich
		513-684-1021
		http://brown.senate.gov
		Washington, D.C. 20515-3504
		713 Hart Senate Bldg.
		U.S. Senate
		U.S. Senator Brown
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## Appendix E

Sample Project Announcement Letters

Mr. Ron Porter T.I.D. 315 High Street Hamilton, OH 45011

May 21, 2010

**Dear Mr. Porter:** 

The City of Hamilton Electric Department continues the process of upgrading its electric system. This process will continue through year 2011. Part of the process will involve the extension of a 138-kV transmission circuit from Dixie Hwy and Clinton Avenue to Hamilton Substation No. 4, located at 2940 Wulzen Ave or just over 1000'. Please see attached route map. This portion of our project is scheduled to take place in late 2010 or early 2011.

As you may know, a substantial percentage of city-owned generation assets will be located outside City of Hamilton limits with the completion of the Captain Anthony Meldahl Locks and Dam near Willow Grove, KY. Hamilton will then be importing a significant portion of its total energy through its 138-kV interconnection with Duke Energy at 8950 Gilmore Rd. The extension of the transmission circuit from Dixle Hwy and Clinton Ave to Substation No. 4 will provide much needed capacity for proposed hydroelectric generation from the Captain A. Meldahl Locks and Dam.

With the completion of the generation plant at Meldahl, approximately 70% of Hamilton's electric generation will be green. Hence, this new transmission circuit is a valuable project for Hamilton and the surrounding area.

If you have any questions or concerns, please feel free to contact me at 513-785-7224 or mcintire@ci.hamilton.oh.us.

Sincerely,

Alan McIntire Supervising Mechanical Engineer City of Hamilton, Electric Department

<u>Substation 11 to</u>	Substation 4	Property Owners				
3105 Dixie Hwy	Cambridge Plaza	c/o John Creasey	10925 Reed Hartman Hwy, Suite 200	Cincinnati	НО	45242
3105 Dixie Hwy		Restaurant Mgt, Inc.	300 Main Street	Cincinnati	НО	45202-4123
3040 Dixie Hwy		Buckeye Check Cashing II	7001 Post Road, Suite 200	Dublin	НО	43016
3108 Dixie Hwy	MI Tierra Auto Sales	Lamar Advertising	1260 Edison Avenue	Cincinnatí	НО	45216
3010 Dixie Hwy		GSR Spirits, Inc				45015
3003 Dixie Hwy		Starz Auto				45015
3000 Dixie Hwy		Don's Auto Repair				45015
2949 Dixie Hwy		Frisch's Drive Inn	2800 Gilbert Avenue	Cincinnati	Н	45206
1287 Hooven Ave		vacant				
1271 Hooven Ave	AT	Deborah Robinson				45015
1263 Hooven Ave	đ	JoAnn Hutzelman				45015
1255 Hoaven Ave		Robby McCoy				45015
1247 Hooven Ave	<b>a</b> 1	Gina Frye				45015
1241 Hooven Ave		William Humphrey				45015

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Mr. John Creasey CMC 10925 Reed Hartman Hwy, Suite 200 Cincinnati, Ohio 45242

May 24, 2010

Dear Mr. Creasey:

In the past several years, the City of Hamilton Electric Department has been in the process of upgrading its electric system. This process will continue through year 2011. Part of the process will involve the extension of our existing 138-kV transmission circuit from Clinton Ave and Dixie Hwy to the proposed Substation No. 4 which will be located at 2940 Wulzen Ave, in late 2010 or early 2011 (see attached map).

Due to the location of a substantial percentage of city-owned generation assets outside City of Hamilton limits, Hamilton imports a significant portion of its total energy through its 138-kV interconnection with Duke Energy at 8950 Gilmore Rd. The upgrade of our existing transmission system will provide much needed capacity for proposed hydroelectric generation from the Captain Anthony Meldahl Locks and Dam near Willow Grove, Kentucky.

This proposed extension, approximately 1000', should not require interruptions to your electric service. If electric service interruptions are required, they will be carefully coordinated. Some streets may be temporarily affected (lane closures) during construction and will be limited in time. Drives will be accessible at all times.

You are a valued City of Hamilton electric customer and this is an important project for all Hamilton residents and businesses. This project will help provide safe, adequate electric for many years to come.

If you have any questions, please feel free to contact me at 785-7224 or mcintire@ci.hamilton.oh.us.

Sincerely,

Alan McIntire Electric Department City of Hamilton, Ohio

## Appendix F

**ODNR and USFWS Responses to Information Requests** 



### **United States Department of the Interior**

#### FISH AND WILDLIFE SERVICE

Ecological Services 4625 Morse Road, Suite 104 Columbus, Ohio 43230 (614) 416-8993 / FAX (614) 416-8994

May 24, 2010

Randy Meyer American Municipal Power Inc. 1111 Schrock Road, Suite 100 Columbus, OH 43229 Tails: 31420-2010-TA-0622 31420-2010-CPA-0286

Re: Response to Substation No. 11 to Substation No. 4 138 kV Transmission Line Project, City of Hamilton, Ohio, Butler County

Dear Mr. Meyer:

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. Based on the information you have provided, at this time we have no objection to the proposed project.

ENDANGERED SPECIES COMMENTS: Due to the project type, size, and location, we do not anticipate any impact on federally listed endangered, threatened, or candidate species, or their habitats. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

If you have additional questions or require further assistance with your project proposal, please contact me at the following number (614) 416-8993 x12. I would be happy to discuss the project in further detail with you and provide additional assistance if necessary. In addition, you can find more information on natural resources in Ohio by visiting our homepage at: http://www.fws.gov/midwest/ohio.

Sincerely,

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Mary Knapp, Ph.D. Field Supervisor



# Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Natural Areas and Preserves Anthony J. Celebreeze, III, Acting Chief 2045 Morse Rd., Bldg. F-1 Columbus, OH 43229-8693 Phone: (614) 265-6453; Fax: (614) 267-3096

April 27, 2010

Randy Meyer American Municipal Power, Inc. 1111 Schrock Rd., Suite 100 Columbus, OH 43229

Dear Mr. Meyer:

After reviewing our Natural Heritage maps and files, I find the Division of Natural Areas and Preserves has no records of rare or endangered species in the Substation No. 11 to Substation No. 4 138 kV Transmission Line project area, including a one mile radius, at in Hamilton, Butler County, and on the Greenhills Quad.

There are no dedicated state nature preserves or scenic rivers at the project site. We are also unaware of any unique ecological sites, geologic features, animal assemblages, state parks, state forests or state wildlife areas within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although we inventory all types of plant communities, we only maintain records on the highest quality areas.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

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Debbie Woischke, Ecological Analyst Natural Heritage Program





DNR-0001



## Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Ohio Division of Wildlife James A. Marshall, Acting Chief 2045 Morse Rd., Bldg. G-3 Columbus, OH 43229-6693 Phone: (614) 265-6300

May 12, 2010

Randy Meyer, Director of Environmental Affairs American Municipal Power Inc. 1111 Schrock Road, Suite 100 Columbus, OH 43229

RE: Substation No. 11 to Substation No. 4 138kV Transmission Line Project, City of Hamilton, Ohio, Butler County

Dear Mr. Meyer:

This is in response to your letter dated May 4, 2010. In that letter you request information regarding federal and state listed species that may be impacted by the construction of the project referenced above. After reviewing the information provided, the Ohio Department of Natural Resources, Division of Wildlife (DOW) has the following comments.

The project is within the range of the Indiana bat (Myotis sodalis), a state and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: Shagbark hickory (Carya ovata), Shellbark hickory (Carya laciniosa), Bitternut hickory (Carya cordiformis), Black ash (Fraxinus nigra), Green ash (Fraxinus pennsylvanica), White ash (Fraxinus americana), Shingle oak (Quercus imbricaria), Northern red oak (Quercus rubra), Slippery elm (Ulmus rubra), American elm (Ulmus americana), Eastern cottonwood (Populus deltoides), Silver maple (Acer saccharinum), Sassafras (Sassafras albidum), Post oak (Quercus stellata), and White oak (Quercus alba). Indiana bat habitat consists of suitable trees that include dead and dying trees of the species listed above with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees of the species listed above with exfoliating bark. cavities, or hollow areas formed from broken branches or tops. If suitable trees occur within the project area, these trees must be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between September 30 and April 1. If suitable trees must be cut during the summer months of April 2 to September 29, a net survey must be conducted in May or June prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species.



NR-0001

PAGE TWO Randy Meyer, Director of Environmental Affairs May 12, 2010

The project is within the range of the bald eagle (*Haliaeetus leucocephalus*), a state threatened species. The location of bald eagle activity frequently changes. Therefore, closer to the actual date of construction, the applicant must obtain an updated status of bald eagle activity in the area. To obtain any changes in status, contact Andrea Tibbels or Dave Sherman at the Ohio Department of Natural Resources, Division of Wildlife, Crane Creek Wildlife Research Station, for current information on the presence of bald eagles in the area. Andrea can be reached at (419) 898-0960 extension 25 and Dave at extension 24. If a nest is located within ½ mile of the project site, coordination with the DOW is required.

The project is within the range of the blue corporal (*Ladona deplanata*), a state endangered dragonfly. Due to the mobility of this species, the project is not likely to impact this species.

The project is within the range of the Kramer's cave beetle (*Pseudanophthalmus krameri*), a state endangered species, and the Ohio cave beetle (*Pseudanophthalmus ohioensis*), a state endangered species. These species are found only in caves. The Ohio Cave Protection Law, Section 1517.21 of the Ohio Revised Code, protects caves from impacts, in turn, protecting the habitat of these species. Therefore, the project is not likely to have an impact on these species.

The project is within the range of the cave salamander (*Eurycea lucifuga*), a state endangered species. Records show this species has been found in the same township as the proposed project area. Due to the project being located within the existing utility rightof-way paralleling Dixie Highway and Hooven Avenue; the project is not likely to impact this species.

Otherwise, the Ohio Department of Natural Resources, Division of Wildlife, is not aware of any threatened or endangered species in the vicinity of this project. The DOW is available to provide guidance on avoiding or minimizing impacts to any listed fauna and/or their habitat. If you should need further assistance, please feel free to contact Becky Jenkins at (614) 265-6631.

Sincerel

JOHWNAVARRO Program Administrator

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Appendix G

**Butler County Floodplain Map** 

