APPENDIX C. AGENCY COORDINATION AND APPROVALS

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 43229-6693
Phone: (614) 265-6453; Fax: (614) 267-3096

April 20, 2010

Jim Burns
URS Corp.
1375 Euclid Ave., Suite 600
Cleveland, OH 44115

Dear Jim:

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 Lincoln Electric Wind Energy project area, including a one mile radius, at 222nd St. and St. Clair Ave. in Euclid, Cuyahoga County, and on the East Cleveland Quad (13813844). We also have no records for Indiana Bat (*Myotis sodalis*, state endangered, federal endangered) capture sites within a five mile radius or hibernacula within a ten mile radius of the project site.

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,

Debbie Woischke, Ecological Analyst
Natural Heritage Program

Attachment C-1

Federal Aviation Administration
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-0520

Aeronautical Study No.
2009-WTE-933-OE

Issued Date: 07/23/2009

Matthew Krivos
JW Great Lakes Wind
1900 Superior Ave Suite 333
Cleveland, OH 44114

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine Lincoln Electric Turbine
Location:	Euclid, OH
Latitude:	41-35-04.89N NAD 83
Longitude:	81-31-32.81W
Heights:	450 feet above ground level (AGL)
	1083 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part I)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part II)

See attachment for additional condition(s) or information.

This determination expires on 07/23/2011 unless:

(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

Attachment C-2

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before August 22, 2009. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted in triplicate to the Manager, Airspace and Rules Division - Room 423, Federal Aviation Administration, 800 Independence Ave., Washington, D.C. 20591.

This determination becomes final on September 01, 2009 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Office of Airspace and Rules via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Michael Blaich, at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-933-OE.

Signature Control No: 615822-116829523 (DNH -WT)
Kevin P. Haggerty
Manager, Obstruction Evaluation Service

Attachment(s)

Additional Information
Map(s)

Additional information for ASN 2009-WTE-933-OE

The proposed construction would be located approximately 2.13 nautical miles (NM) northwest of the Cuyahoga County Airport (CGF). It would exceed the obstruction standards of Title 14 of the Code of Federal Regulations, Part 77 as follows:

Section 77.23(a)(2) by 4 feet - a height that exceeds 446 feet above ground level within 2.13 NM as applied to CGF.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

> The proposed structure would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

> The proposed structure would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

> The proposed structure would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

> The proposed structure would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

> The proposed structure would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports.

> The proposed structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

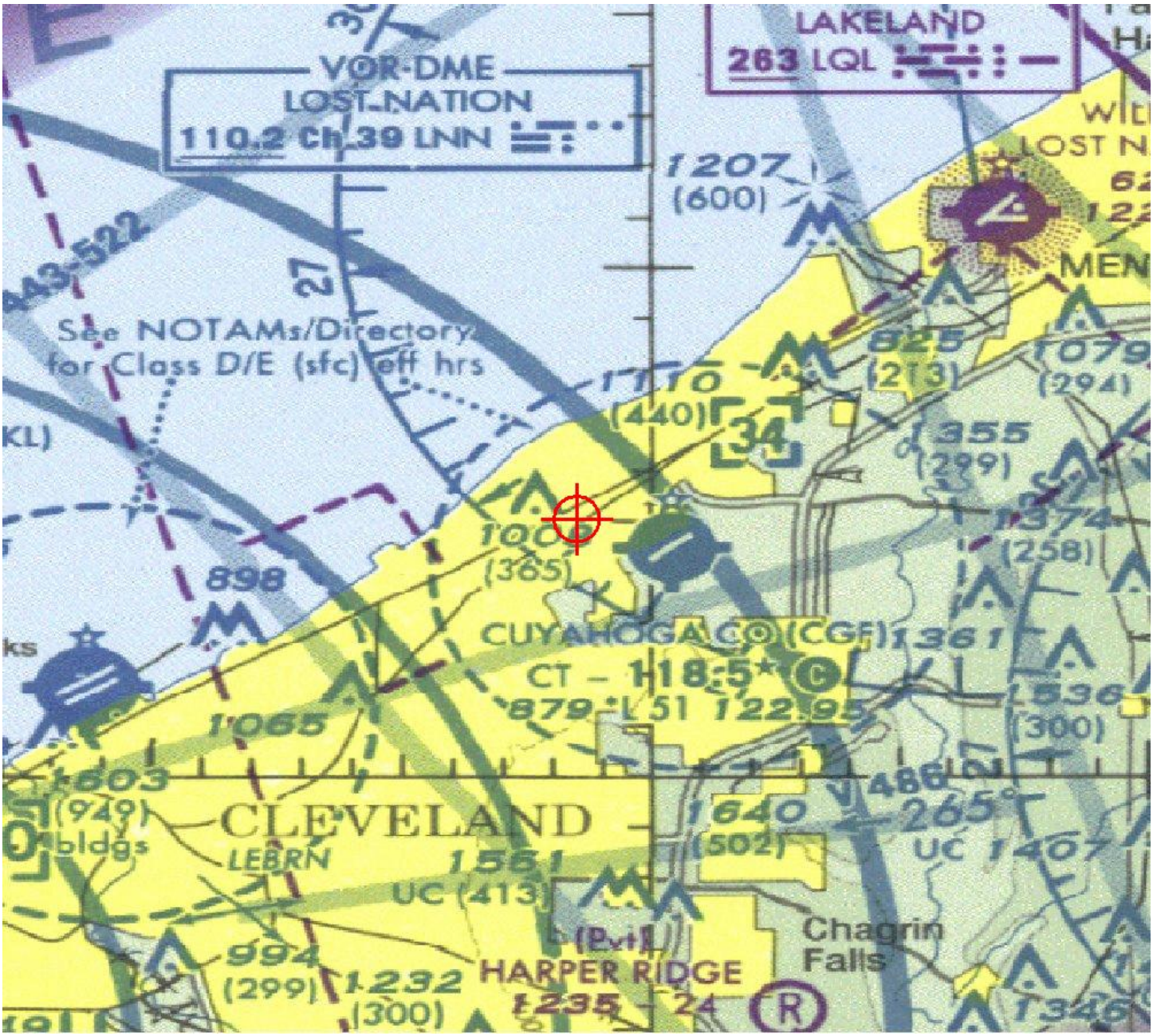
> The proposed structure will be appropriately obstruction marked and lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies. Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws or ordinances.

Sectional Map for ASN 2009-WTE-933-OE



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR | SEAN D. LOGAN, DIRECTOR

Division of Wildlife
David M. Graham, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

March 11, 2010

To all interested parties,

This is in reference to Lincoln Electrics proposed 2.5 MW wind turbine to be installed at their facility in Euclid, Ohio. After a review of the Lincoln Electric project, the Ohio Department of Natural Resources Division of Wildlife (DOW) has determined that this project will likely not pose a substantial risk to Ohio's wildlife resources. Though this site is relatively close to the Lake Erie shoreline, an area that the DOW has previously identified as higher risk due to the potential accumulation of songbirds during migration, the proposed location is situated within a highly developed region of the state and lacks suitable breeding or stop-over habitat. Additionally, there are no nests of protected species of raptor (bald eagle, northern harrier, osprey, or peregrine falcon) or observations of Indiana bats (state and federal endangered species) within 5-miles of the site. Based upon these factors the DOW has determined it is unlikely that this turbine will impact significant numbers of birds or bats.

If constructed, this turbine would be one of the first turbines located along the Lake Erie shoreline within Ohio. Therefore, the DOW requests that Lincoln Electric conduct or arranges access for someone appointed by the DOW to conduct post-construction monitoring in accordance with the "*On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio*" developed by the DOW. Results from this study will be used by the Division to assess what impact this and other turbines sited within close proximity of the Lake Erie shoreline may have on birds and bats.

Attachment C-3

The Division of Wildlife encourages the development of properly sited wind energy projects, and looks forward to working with Lincoln Electric as this project progresses.

Sincerely,

Keith Lott, Wind Energy Wildlife Biologist

Old Woman Creek Nat'l Estuarine Research Reserve and State Nature Preserve
Ohio Division of Wildlife
2514 Cleveland Road East
Huron, OH 44839
Office phone: 419-433-4601
Cell: 419-602-3141
Fax: 419-433-2851

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

April 26, 2010

Mr. Tracy Engle
URS Corporation
1375 Euclid Avenue, Suite 600
Cleveland, Ohio 44115

TAILS# 31420-2010-TA-0548

Dear Mr. Engle:

This is in response to your April 15, 2010 e-mail and conference call requesting our review of the proposed Lincoln Electric Company's proposed wind power project, to be located in the City of Euclid, Cuyahoga County, Ohio. The project involves the installation of a single 2.5 MW wind turbine at the existing facility. The project area is currently composed of a mowed grass area located within the existing industrial facility grounds. The landscape surrounding the project area is extensively developed with little natural habitat nearby. However the project does lie within approximately 2 miles of the Lake Erie shoreline. This project will be funded by an Ohio Department of Development grant which comes from money that Ohio received from the U.S. Department of Energy (DOE) pursuant to DOE's State Energy Program (SEP) under the American Recovery and Reinvestment Act (ARRA).

There are no Federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the project area.

The following comments are being provided pursuant to the Endangered Species Act (ESA), Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Fish and Wildlife Act of 1956. This information is being provided to assist you in making an informed decision regarding wildlife issues, site selection, project design, and compliance with applicable laws.

The Fish and Wildlife Service (Service) supports the development of wind power as an alternative energy source, however, wind power projects can have negative impacts on wildlife and their habitats if not sited and designed with potential wildlife and habitat impacts in mind. Selection of the best sites for turbine placement is enhanced by ruling out sites with known, high concentrations of birds and/or bats passing within the rotorswept area of the turbines or where the effects of habitat fragmentation will be detrimental. In support of wind power generation as a wildlife-friendly, renewable source of power, development sites with comparatively low bird, bat and other wildlife values, would be preferable and would have relatively lower impacts on wildlife.

WATER RESOURCE COMMENTS:

The Service recommends that impacts to streams and wetlands be avoided, and buffers surrounding these systems be preserved. Streams and wetlands provide valuable habitat for fish and wildlife resources, and the filtering capacity of wetlands helps to improve water quality. Naturally vegetated buffers surrounding

Attachment C-4

these systems are also important in preserving their wildlife-habitat and water quality-enhancement properties. Furthermore, forested riparian systems (wooded areas adjacent to streams) provide important stopover habitat for birds migrating through the region. The proposed activities do not constitute a water-dependent activity, as described in the Section 404(b)(1) guidelines, 40 CFR 230.10. Therefore, practicable alternatives that do not impact aquatic sites are presumed to be available, unless clearly demonstrated otherwise. Therefore, before applying for a Section 404 permit, the client should closely evaluate all project alternatives that do not affect streams or wetlands, and if possible, select an alternative that avoids impacts to the aquatic resource. If water resources will be impacted, the Buffalo District of the Corps of Engineers should be contacted for possible need of a Section 404 permit.

ENDANGERED SPECIES COMMENTS:

The proposed project lies within the range of the **Indiana bat** (*Myotis sodalis*), a Federally-listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. During the winter Indiana bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but the following are considered important:

1. Dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas.

2. Live trees (such as shagbark hickory and oaks) which have exfoliating bark.

3. Stream corridors, riparian areas, and upland woodlots which provide forage sites.

The Service currently has no records for Indiana bats within 5 miles of the project area, and the immediate project area does not appear to support suitable habitat. A small amount of potentially suitable habitat may exist in the greater project area, however there are no impacts proposed to this area. Therefore, we do not anticipate any impact on this species. However, if the project should be altered such that either the turbine or wiring would impact trees or forested areas, further consultation with this office is requested.

The project lies within the range of the piping plover, a federally listed endangered species. Due to the project type, size, and location, we do not anticipate any impact on this species or its habitat. 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.

MIGRATORY BIRD COMMENTS:

The Migratory Bird Treaty Act (16 U.S.C. 703-712; MBTA) implements four treaties that provide for international protection of migratory birds. The MBTA prohibits taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for allowing unauthorized take, the Service recognizes that some birds may be taken during activities such as wind turbine operation even if all reasonable measures to avoid take are implemented. The Service's Office of

Law Enforcement carries out its mission to protect migratory birds not only through investigation and enforcement, but also through fostering relationships with individuals and industries that proactively seek to eliminate their impacts on migratory birds. Although it is not possible under the MBTA to absolve individuals, companies, or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures), the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law, especially when conservation measures have been developed but are not properly implemented.

Bald and golden eagles are included under the Migratory Bird Treaty Act, but are afforded additional legal protection under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). No bald eagle nests exist within 5 miles of the project site. Further, the project area does not appear to support suitable bald eagle habitat (mature woods, ponds, streams), therefore it is unlikely that bald eagles would regularly occur in the project area. In general, we recommend using tubular or monopole supports with pointed tops and no guy wires rather than lattice supports for the turbine to minimize bird perching and nesting opportunities. Other recommendations are provided below.

The project lies within the boundary of the Western Lake Erie Important Bird Area, established by Audubon Ohio. Therefore we recommend careful consideration of the below guidelines, designed to protect migratory birds.

Research into the actual causes of bat and bird collisions with wind turbines is limited. To assist Service field staffs in review of wind farm proposals, as well as aid wind energy companies in developing best practices for siting and monitoring of wind farms, the Service published *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* (2003). We encourage any company/licensee proposing a new wind farm to consider the following excerpted suggestions from the guidelines in an effort to minimize impacts to migratory birds and bats.

1) Pre-development evaluations of potential wind farm sites to be conducted by a team of Federal and/or State agency wildlife professions with no vested interest in potential sites;

2) Rank potential sites by risk to wildlife;

3) Avoid placing turbines in documented locations of federally-listed species;

4) Avoid locating turbines in known bird flyways or migration pathways, or near areas of high bird concentrations. (i.e., rookeries, leks, State or Federal refuges, staging areas, wetlands, riparian corridors, etc.) Avoid known daily movement flyways and areas with a high incidence of fog, mist or low visibility;

5) Avoid placing turbines near known bat hibernation, breeding, or maternity colonies, in migration corridors, or in flight paths between colonies and feeding areas;

6) Configure turbine arrays to avoid potential avian mortality where feasible. (i.e., group turbines and orient rows of turbines parallel to known bird movements) Implement storm water management practices that do not create attractions for birds, and maintain contiguous habitat for area-sensitive species;

7) Avoid fragmenting large, contiguous tracts of wildlife habitat. Wherever practical, place turbines on lands already disturbed and away from intact healthy native habitats. If not practical, select fragmented or degraded habitats over relatively intact areas;

8) Minimize roads, fences, and other infrastructure. Wherever possible, align collection lines and access roads to minimize disturbance;

9) Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. (i.e., avoid attracting prey animals used by raptors;

10) Use tubular supports with pointed tops rather than lattice supports to minimize bird perching and nesting opportunities. Avoid placing external ladders and platforms on tubular towers to minimize perching/nesting. Avoid use of guy wires for turbine or meteorological tower supports. All existing guy wires should be marked with bird deterrents. (Avian Power Line Interaction Committee 1996);

11) If taller turbines (top of rotor-swept area is greater than 199 feet above ground level) require lights for aviation safety, the minimum amount of lighting specified by the Federal Aviation Administration (FAA) should be used. Unless otherwise requested by the FAA, only white strobe lights should be used at night, and should be of the minimum intensity and frequency of flashes allowable;

12) Adjust tower height to reduce risk of strikes in areas of high risk for wildlife.

13) Wherever feasible, place electric power lines underground or on the surface as insulated, shielded wire to avoid electrocution of birds. Use recommendations of the Avian Power Line Interaction Committee (1996) for any required above-ground lines, transformers, or conductors;

The full text of the guidelines is available at http://www.fws.gov/habitatconservation/wind.pdf. The Service believes that implementing these guidelines may help reduce mortality caused by wind turbines. We encourage you to consider these guidelines in the planning and design of the project. We particularly encourage placement of turbines away from any large wetland, stream corridor, or wooded areas, including the areas mentioned previously, and avoid placing turbines between nearby habitat blocks.

POST CONSTRUCTION MONITORING:

We note that in their March 11, 2010 letter regarding this project, the Ohio Department of Natural Resources (ODNR) recommended post-construction monitoring of this wind turbine due to its proximity to the Lake Erie shoreline, an important area for migrating birds. The Service supports this recommendation. We recommend that the post-construction monitoring protocol be developed in conjunction with ODNR and we would be interested in receiving a copy of the post-construction monitoring report.

Thank you for the opportunity to provide comments on this proposed project. Please contact biologist Megan Seymour at extension 16 in this office if we can be of further assistance.

Sincerely,

Mary Knapp

Mary Knapp, Ph.D.
Supervisor

cc: Mr. Keith Lott, ODNR, Old Woman Creek, 2514 Cleveland Road East, Huron, OH 44839

THE LAKEFRONT CITY OF SUPERIOR SERVICES

585 East 222nd Street, Euclid, OH 44123-2099

www.cityofeuclid.com

March 8, 2010

Mr. Seth Mason, Energy Manager
Lincoln Electric Company
22801 Saint Clair Avenue
Euclid, Ohio 44117

Re: Visual Impacts of Proposed Wind Tower on PPN 647-13-003

Dear Mr. Mason:

The subject lot on which the 2.5MW wind turbine is proposed is in a U-6 Industrial and Manufacturing zoning district. It is a 34 acre parcel located within a much larger predominantly industrial tract which runs from Chardon Road to Babbitt Road, Interstate 90 to Euclid Avenue. Within this general area there are over 762 acres of industrial land. The nearest residential area is to the north, approximately 1,180 feet away and separated by a 20 foot sound barrier. The next nearby residential area to the south is approximately 3,070 feet away. These distances and the predominantly industrial nature of the area show that this proposed turbine is well situated with regard to general land use planning principals.

In addition, there is a general expectation that within an industrial area that various uses and equipment do have impacts and establish an aesthetic which would not be acceptable generally in the non-industrial areas of a community. Therefore, the City of Euclid finds that the 2.5MW wind turbine proposed for permanent parcel number 647-13-003 does not represent a significant negative visual impact.

The proposed turbine is to be located 603 feet from the nearest abutting neighbor, 259 feet from the right-of-way of East 222nd Street, and 284 feet from the right-of-way of St. Clair Avenue. This placement on the lot provides ample distance from nearby commercial and industrial properties to ensure that there will be no negative impact to the neighboring area. In fact, it is anticipated that the Lincoln Electric Wind Turbine will serve as a local landmark for the industrial district.

Further, the Lincoln Electric Company has received a variance from the City of Euclid's height restrictions of the Planning and Zoning Code at a public hearing of the City of Euclid's Planning and Zoning Commission. Public comment was encouraged and neither the Planning and Zoning Commission nor the general public raised any concerns regarding the visual impact of the proposed wind turbine.

If you have any questions or require further comment please feel free to contact me at (216) 289-8180 or pbeno@cityofeuclid.com.

Sincerely,

Paul Beno
Planning & Zoning Commissioner

Attachment C-4a

APPENDIX C. AGENCY COORDINATION AND APPROVALS

Department of Energy
Washington, DC 20585

June 16, 2010

Mr. Mark Epstein
Department Head
Resource Protection and Review
Ohio Historic Preservation Office
1982 Velma Avenue
Columbus, Ohio 43211-2497

RE: American Recovery and Reinvestment Act 2009 (ARRA)
Lincoln Electric Wind Turbine Project (PRJ13813844)
East 222nd Street, Euclid, Ohio

Dear Mr. Epstein:

This letter continues consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations 36 CFR Part 800 "Protection of Historic Properties (Section 106)" for the construction of the above referenced wind turbine project (the Undertaking) to be funded through a grant from the U.S. Department of Energy (DOE) to the Ohio Department of Development Energy Resources Division (ODOD) State Energy Program funding from the American Reinvestment and Recovery Act of 2009 (ARRA).

We are sending this letter to your attention per your direction to Mr. Greg Payne, ODOD. In response to the Ohio Historic Preservation Office (OHPO) letter dated May 20, 2010, we are providing additional information related to our earlier findings (DOE letter to OHPO, May 14, 20210). This response specifically reflects the refined request for information provided in your e-mail correspondence to Mr. Greg Payne, Energy Public Policy Division, and ODOD, dated June 2, 2010 and provides the information you requested. That e-mail specified that the OHPO required answers to the following questions:

1. Consulting party participation beyond agencies—who they are and what their opinions are;
2. Justification for the Area of Potential Effect (APE);
3. Identification and evaluation of properties not previously identified—that is, not already listed in the NRHP or inventories, and;
4. Assessment of effects to any historic properties (including those newly identified) in the APE

The proposed Undertaking is installation of a 443 foot high 2.5 MW wind turbine at the Lincoln Electric facility in Euclid Ohio (Attachments 1 and 2). A complete

Attachment C-5

Printed with soy ink on recycled paper

description of the proposed Undertaking can be found in our letter of May 14, 2010 to the OHPO.

Consulting Party Participation

Consultation with interested parties regarding the potential effects of the Undertaking on NRHP listed or eligible properties will reflect the scale of the Undertaking, the level of DOE involvement and, as per 36 CFR 800.2, be coordinated with the requirements of the National Environmental Policy Act (NEPA). An Environmental Assessment (EA) of the project is currently being prepared to fulfill compliance with NEPA. Public (i.e. consulting parties, agencies, public and all other stakeholders) notification and Section 106 consultation will be coordinated as part of the EA per the statute:

> Agency officials should ensure that preparation of an environmental assessment (EA) and finding of no significant impact (FONSI) or an EIS and record of decision (ROD) includes appropriate scoping, identification of historic properties, assessment of effects upon them, and consultation leading to resolution of any adverse effects…An agency official may use the process and documentation required for the preparation of an EA/FONSI or an EIS/ROD to comply with section 106 in lieu of the procedures set forth in §§ 800.3 through 800.6 if the agency official has notified in advance the SHPO/THPO and the Council that it intends to do so, et sec. (36 CFR 800.2(3) and 800.2(3)(b)).

Documentation of DOE's Section 106 consultation with OHPO will be included in the EA, which will be open for public comment for 14 days. A Notice of Availability of the EA and public comment procedures for the EA will reference the public's ability to comment on the proposed Undertaking's potential effects on listed and potentially eligible NRHP properties. The NOA for the EA will clearly identify that the Public will have an opportunity to comment on the Undertaking's proposed effects on historic and potentially historic properties per Section 106 as part of the NEPA process. The following agencies and organizations will receive the NOA and draft EA:

- City of Euclid
- City of Euclid Historic Landmarks Commission
- Euclid Historic Museum and Euclid Historical Society
- Cleveland Restoration Society
- Urban Design Center of Northeast Ohio
- Cuyahoga County Government
- Cuyahoga County Planning Commission
- First Suburbs Development Council
- Western Reserve Historical Society
- Western Reserve Heritage Association

and the City of Euclid website newsletter http://www.cityofeuclid.com/uploads/newsletters/current.pdf. The 2010 Spring edition of this newsletter already included a page-long article on the Lincoln Electric Wind Turbine project.

The EA will be posted on DOE's Golden Reading Room website: http://www.eere.energy.gov/golden/Reading_Room.aspx (target date 7/5/2010) which will enable an opportunity for review of the EA and the Section 106 Consultation documentation. Information about the Undertaking on the Golden Reading Room website will include the DOE's Section 106 finding of effects for the project, and the OHPO's comments on the agency finding of effects, pending conclusion of Section 106 consultation. The public will be provided an e-mail address where they can send their comments, along with a postal address for written or printed comments. After the two week public comment period has ended, the DOE will consider and analyze all submitted comments and questions.

Comments and questions that are repetitive or similar in nature will be grouped under one issue heading. Each of these issues will be considered for inclusion in the final EA document. After consideration and analysis, responses will be written and sent to the OHPO and posted on the website. Responses to public comments are anticipated to be completed and posted on the website within 2-3 weeks of the comment closing date and will precede any filing of a Finding of No Significant Impact Statement (FONSI) for the project.

The DOE finds this proposed public participation process to be consistent with 36 CFR 800.2*(d)*. The proposed process is appropriate to the scale of the undertaking, the scope of federal involvement and is coordinated with the requirements of the National Environmental Policy Act (NEPA). Consistent with 36 CFR 800.2*(d)(3)*, DOE is using, to the extent possible, existing agency procedures and mechanisms to fulfill these consultation requirements.

Above-Ground and Archaeological APEs

The archeological APE for the Lincoln Electric Wind Turbine (Wind Turbine) project is defined as the 10-acre proposed construction site (Attachment 3). The Above-Ground APE for the project is defined as a one-mile radius from the proposed Wind Turbine location (Attachment 4).

Clarification of Archeological APE: The APE determined for archaeological resources focuses on the zone of direct ground disturbance associated with the construction of the Wind Turbine. Although the installation of the wind turbine will be limited to approximately 0.37 acres, which includes the Wind Turbine foundation and clearing around the foundation. However, the construction site is considered to potentially include the entire 10-acre area, as site access may be from the south end of the wind turbine installation site and may require removing existing asphalt temporarily (which would be replaced) and the lay down/staging

may include additional areas outside the 0.37-acre wind turbine installation area. The archeological APE therefore is considered to be the 1-acre construction site. Current construction plans can be found in Attachment 5—Construction Drawings, Sheet C02. The Wind Turbine will be approximately 12 feet below the ground surface (after the removal of the artificial fill).

Clarification of Above-Ground APE: In defining the above-ground APE, both direct and indirect effects were considered. Direct, physical effects would only occur at the construction sites itself; that site is included in the APE. It was determined that the visual character and the setting of the surrounding area should be considered, particularly the presence of existing industrial towers in the viewshed, in order to assess the potential indirect, visual effects of the Undertaking. A computer-generated visual simulation of the view shed of the proposed Wind Turbine as it would be viewed from public spaces was analyzed to determine an appropriate APE.

The southeast intersection of East 222nd Street and St. Clair Avenue is located in an area zoned by the City of Euclid as U6 – Industrial and Manufacturing District. Delineation of this industrial district set a national precedent when a landmark Supreme Court decision (Village of Euclid v. Amber Realty) upheld the constitutionality of municipal land use zoning. This decision prevented Amber Reality from developing an industrial use south of Euclid Avenue, which continues to define a southern boundary for Euclid's industrial district. Along the northern boundary of this industrial area (Interstate 90 and CSX freight line railroad tracks) twenty-foot high concrete slab noise barrier walls are located on both sides of I-90. The south noise barrier wall is visible from the project area. The N&S Railroad, also a freight line, runs though the district and is north of Euclid Avenue.

South of Euclid Avenue the former shoreline of ancient Lake Whittlesey, dating from the retreat of the glaciers that formed the Great Lakes, is currently characterized by steep slopes that rise several hundred feet in elevation and are heavily wooded. The Euclid Creek runs southeast to northwest from the steep slopes south of Euclid Avenue to Wildwood State Park, located on the shores of Lake Erie. The ancient lake shores and this tributary form numerous ridges in the area.

There are 4 tall towers in the City of Euclid that are visual representations of the community and region's industrial heritage and associated landscape. Table 1 lists the towers, shows their height, and identifies the approximate distance of each from the proposed Wind Turbine.

Table 1. Existing Towers Located in Euclid, Ohio

Name	Type	Height in Feet	Distance – Feet	Distance – Miles

EP3	Water	35	562	0.106
EP ½	Water	128	2,565	0.486
Nottingham Water Plant	Radio	350	5,198	0.984
City of Euclid Tower	Radio	299	6,003	1.137

The visual character of these towers is illustrated in Attachment 6, which includes renderings of the towers showing comparative heights and oblique aerial photographs of the tower sites.

Computer simulations depicting how the proposed wind turbine would appear in the view shed were prepared for public site locations around the project area (Attachment 7). The sites include parking lots of public and parochial schools, churches, a playground, fire station, exposition center, and a state park. Public sites were chosen because they are places were people gather and the introduction of a new element in their view shed would theoretically impact a greater number of people than private properties. Visual simulations at 13 locations were prepared, ranging from a distance of approximately ½ mile from the proposed site to almost 2 miles away, near the shore of Lake Erie.

Table 2. Public Space Visual Simulation Study

Photo	Location	Distance	Direction	Visible	In APE	Wind Turbine viewshed partially obstructed by	Contains objects of similar height
1	Perry School	6967	West	Yes	No	Building	
2	Roosevelt School	4150	Northwest	No	Yes	Trees	
3	St. Christine's School	2545	North	Yes	Yes		Tree line
4	Euclid High School	4450	North	Yes	Yes		Parking lot lights poles
5	Great Lakes Expo Center	4650	Northeast	Yes	Yes		Parking lot lights poles, water tower
6	Tungsten Playground	6897	East-northeast	No	No	Trees	
7	St. Felicitas Church & School	7062	East	No	No	Trees and ridgeline	
8	Bethlehem Church	4866	East-southeast	No	Yes	Trees	

9	Glenbrook Elementary	4767	South-southeast	No	Yes	Ridgeline	
10	St. Joeseph Convent	6562	South	No	No	Trees and ridgeline	
11	Central Middle School	6805	South-southwest	No	No	Building	
12	Euclid Creek Park/ Fire Station	6526	West-southwest	No	No	Trees	
13	Wildwood State Park	9989	West	No	No	Trees	

The visual simulations show that the presence of the proposed Wind Turbine is not solely determined by distance. The visibility of the proposed Wind Turbine would vary by location due to the existing ridgelines, tree cover and various buildings and structures that would partially or entirely block the view. Unlike the open treeless prairies or deserts of the West, or flat agricultural areas of the Midwest where tall towers may be seen from several miles away, the natural vegetation of northeast Ohio includes many trees, occurring both naturally and as landscape plantings. These trees will effectively screen many potential views of the Wind Turbine. Where trees are lacking, in many cases buildings will potentially serve as visual obstacles to views of the Wind Turbine.

One visual simulation taken from over 1 mile away indicates the Wind Turbine would be visible. Another visual simulation from a location that is less than 1 mile from the project site indicates that tree cover would mask the view of the wind turbine. Other visual simulations indicate that existing ridgelines in the area would mask the Wind Turbine. A visual simulation from a site approximately ¾ of mile (4,150 feet = .78 mile) from the project site indicates that the Wind Turbine could not be seen, while a site a little over 1 ¼ miles away (6,967 feet = 1.32 miles) indicates that the Wind Turbine would be visible.

This visual simulation indicates the distances from which the proposed Wind Turbine could be seen range from 2,545 to 6,967 feet, with one of these locations, Wildwood State Park, located outside the 1-mile APE (Table 2). A total of eight simulation locations were located outside the 1-mile APE with sight line distances ranging from 6,526 feet to 9,989 feet. Wildwood State Park was the only site outside the 1-mile APE from which the wind turbine was visible. The mean distance of the locations from which the Wind Turbine could be seen is 4,238 feet. The mean distance of the locations from which the Wind Turbine could not be seen is 7,258 feet. The average of the two means is 5,748. The mean distance of the computer generated visual simulation viewing sites is 5,864 feet. A mile above-ground APE would be 5,280 feet from the proposed Wind Turbine.

Beyond one mile, the angles/slopes of any sight lines diminish, decreasing the chances of unobstructed views of the Wind Turbine. For example, the NRHP-listed Albert J. Henn Mansion that is 11,243 feet (2.1 miles) away from the Wind

Turbine site was calculated to have an angle of sight line above horizontal of approximately 2 degrees, which equates to a slope of 4.3 percent. The effect of this flat slope is that 40-foot tall trees occurring within 800 feet of the mansion would screen the view of the Wind Turbine. Given the frequency of urban and street trees within the City of Euclid, it is highly unlikely that a treeless 800 foot stretch would occur that would visually affect many properties.

In summary, the likelihood of a clear, unobstructed vista of the Wind Turbine beyond one mile is extremely small and diminishes rapidly as one travels further away from the site. The varied topography which includes ridgelines, structures consistent with a dense, urban industrial area including tall towers, and the extensive tree canopy found throughout the city, create frequent visual obstacles that block expansive views in the area. Of the eight visual simulation locations located over one mile from the proposed wind turbine location, the turbine was only partially visible from Wildwood State Park. A 1-mile APE is justified for determining the effects, including visual effects, of the proposed Wind Turbine as it represents a reasonable effort to assess visual effects of the Undertaking based on available technology and the existing physical character of the area.

Identification of Historic Above-Ground Properties in APE

The DOE's letter of May 14, 2010 to the OHPO provided information about previously-identified historic properties within the APE. Those properties included NRHP-listed properties in Euclid (2 properties), properties listed in the Ohio Historic Inventory (10 properties) within the APE, and properties within the APE identified by the current City of Euclid Certified Local Government-funded Historic Property Reconnaissance Survey (CLG Survey; 3 properties).

In response to the OHPO's request, DOE's contractor, URS Corporation, conducted further research to identify and evaluate properties that have not been previously identified and evaluated for NRHP eligibility within the APE. That research included site inspection of the OHI properties within the APE and evaluation of their eligibility for the NRHP. URS also obtained updated information from the consultants who are conducting the CLG Survey. DOE believes that utilization of the CLG survey, which includes survey and identification of potential historic properties within the APE, fulfills our responsibility to identify potential historic properties not previously-identified within the APE. That information was also utilized to evaluate those properties for NRHP eligibility evaluation.

Ninety properties have been identified by the CLG Survey that will be recommended for further evaluation to determine whether or not they are historic properties eligible for listing in the NRHP. Thirty of these properties are located within the APE for this Undertaking. Of these 30, 10 are the previously-identified OHI properties noted above. The following sections describe the CLG Survey methodology and assess the NRHP eligibility of the OHI and CLG Survey

properties within the APE. The results of this identification and evaluation have determined that a total of 5 properties located within the APE are eligible for listing in the NRHP. Details related to the CLG survey methodology and detailed findings are located in Attachment 8.

OHI Properties: NRHP Eligibility Assessment

Resources recorded by the OHI with individual OHI forms included ten properties within the APE (Table 3). Limited field and desktop investigation was undertaken to confirm that all ten properties recorded in the OHI forms remained extant. These tasks were performed using photographs taken during field survey conducted by URS Corporation in May 2010 and the specific OHI forms, which include "Site Plan with North Arrow," and a map to identify the location of each property. This further verification of extant properties was based on the most up-to-date information and imagery provide by *Google Earth Professional* computer software, which provides GIS-based aerial and street view imagery updated in May 2007.

Table 3. OHI Properties Within APE

OHI Number	Resource Name	Address
OHI No. CUY-1645-22	Euclid City Hall	585 East 222nd Street
OHI No. CUY-1658-22	North Street School	21129 North Street
OHI No. CUY-1643-22	North Street Elementary School	21103, 21105 North Street
OHI No. CUY-1654-22	Roosevelt School (Noble School)	1551 East 200th Street
OHI No. CUY-1659-22	Nottingham Purification Plant	1300 Chardon Road
OHI No. CUY-1644-22	Ajax Manufacturing Company	1441 Chardon Road
OHI No. CUY-1650-22	A.A. Aiken; George W. Woodworth; C.S. Tracy, House	Euclid Ave. at TRW Drive
OHI No. CUY-1657-22	F. L. Priday Residence	1530 212th Street
OHI No. CUY-1652-22	J. Priday Residence	678 East 222nd Street
OHI No. CUY-1651-22	N/A (Present Name on OHI: 1731 Beverly Hills Drive)	1731 Beverly Hills Drive

Two of the eight properties were found to be no longer extant -- OHI No. CUY-1657-22 and OHI No. CUY-1650-22. A small 1970s multi-unit residential building now occupies the former location of OHI No. CUY-1657-22. A large multi-unit residential building(s) occupy the former location of OHI No. 1650-22 (the Aiken, Woodworth, Tracy House).OHI No. CUY-1650-22's status was further confirmed by a telephone interview with John Williams, President of the Euclid Historical Museum. Investigation suggests a section of the original premises has been developed as an apartment complex and there are no buildings present in the location of the building recorded on OHI No. CUY-1650-22.

The remaining 8 OHI properties were evaluated using the original OHI forms and photographs taken during field survey to determine their eligibility for listing in the NRHP through the application of the NRHP Criteria for Evaluation (Attachment 9). Both the historic context and the period of significance used to conduct this evaluation were drawn from the CLG Survey Report. While all Criteria of the NRHP were considered, given the limits of the information obtained through the methods described above, evaluation was weighted towards Criterion C as that criterion is primarily based upon physical attributes that may be observed through exterior photographs. The 8 OHI properties also underwent NRHP evaluation as contributing properties in a historic district and none of the properties found eligible in this report appear to be in a historic district nor is a potential historic district known to be within the APE.

Following is a summary of the findings from the evaluation of each of the above-referenced properties. Complete details regarding the analysis and eligibility as well as the methodology used in the evaluation of each of the properties are located in Attachment 8.

OHI No. CUY-1643-22 is a one-and-a-half-story red brick building located at 21103 and 21105 North Street, which According to the OHI form, was constructed in 1870 as a school and is present on an 1874 atlas. The DOE has determined that OHI No. CUY-1643-22 is not eligible for listing in the NRHP.

OHI No. CUY-1644-22 is two-story red brick industrial building located at 1441 Chardon Road. According to the OHI form, the building was constructed in 1924 for the Ajax Manufacturing Company—a Cleveland-based producer of nuts, bolts, and machinery. DOE has determined that OHI No. CUY-1644-22 is not eligible for listing in the NRHP.

OHI No. CUY-1651-22 is a substantial three-story detached single-family dwelling located at 1731 Beverly Hills Drive. According to the OHI form the building was constructed in 1925 and is Tudor Eclectic in style. The history of residency is not provided. The DOE has determined that OHI No. CUY-1651-22 is not eligible for listing in the NRHP.

OHI No. CUY-1652-22 is a two-story, wood-frame vernacular late Victorian-era single-family detached residential building located at 678 East 222nd Street. According to the OHI form the building was constructed in 1890 and, as of 1914, the dwelling was situated on 38 acres owned by J. Priday. The Priday family owned other land in Euclid. The DOE has determined that OHI No. CUY-1652-22 is not eligible for listing in the NRHP

OHI No. CUY-1654-22 is a substantial one-story brick school building located at 1551 East 200th Street. According to the OHI form, the building was completed in 1919 with eight classrooms as the Roosevelt School. It has since been enlarged

and is now twice its original size and 27 classrooms. Because the building maintains physical integrity sufficient for listing in the NRHP, the DOE has determined that OHI No. CUY-1654-22 is eligible for listing in the NRHP.

OHI No. CUY-1658-22 is a one-and-a-half-story red brick building located at 21129 North Street. According to the OHI form, the building was constructed as a public school in 1894 and is purported to be one of the oldest public buildings in Euclid. Because the building no longer maintains physical integrity sufficient for listing in the NRHP, the DOE has determined that OHI No. CUY-1658-22 is eligible for listing in the NRHP.

OHI No. CUY-1659-22 is a large-scale yellow brick industrial building located at 1300 Chardon Road. According to the OHI form, the WPA initiated plans for construction of the plant in the 1930s, but it was not completed until 1951. The building was designed by Havens & Emerson—an Ohio-based architectural-engineering firm. Because the building maintains physical integrity sufficient for listing in the NRHP, the DOE has determined that OHI No. CUY-1659-22 is eligible for listing in the NRHP.

CLG Survey Properties: NRHP Eligibility Assessment Methodology

The CLG Survey identified 90 properties in the City of Euclid that will be recommended for further evaluation to determine whether or not they are historic properties eligible for listing in the NRHP. Thirty of these properties are located within the APE for this Undertaking. URS evaluated these thirty properties to determine whether or not they are historic properties eligible for listing in the NRHP through the use of images of the buildings found on Google Earth Professional, supported by analysis by team members with knowledge of the history and architectural history of northeast. On-site survey of these properties was not completed by a URS Architectural Historian.

Table 4 identifies the properties in the APE recommended for additional survey by the CLG draft survey report. The last column of this table is DOE's assessment of the property's NRHP eligibility.

Table 4. CLG Survey
Proposed List of Properties to Survey in APE

Building Type	Resource Name	Address	NRHP Eligible
Public Building	Fire Station #9	Euclid at E. 221st Street	No
Church	St. Christine Church/School	East 222nd Street	No

Church	St. Paul Church/School	1231 Chardon Road & E. 200th	No
Church	Our Lady of Lourdes Shrine	across from 21351 Euclid	No
Commercial Building	Guy's Pizza	861 East 222nd Street	No
Commercial Building	Paddy's	920-928 East 222nd Street	Yes
Commercial Building	Corner Beverage	923 East 222nd Street	Yes
Commercial Building	DiDonato Funeral Home (formerly Brickman Funeral Home)	21900 Euclid Avenue	No
Industrial Building	Chandler Products	1491 Chardon Road	No
Industrial Building	Sunshine Products	1111 East 200th Street	No
Industrial Building	Glasscote Products	20900 St. Clair	No
Industrial Building	TAPCO	23000 Euclid (23555 Euclid Ave.)	No
Industrial Building	Powdermet, Inc. formerly Textron Airfoil Forgings	24112 Rockwell Drive	No
Residential Building	20th c. residential	23970 Effingham	No
Residential Building	20th c. residential	800 block E. 212th	No
Residential Building	A Sear's House	20701 Naumann	No
Other	Paul Serra Stadium Concession	585 E. 222 St	No
Other	Slovenian Society Home	20713 Recher	No

CLG Survey Properties: NRHP Eligibility Assessment

Of the 30 CLG Survey properties located within the APE, 18 were recommended for further analysis and of the 18, only 2 were determined to be NRHP eligible and discussed below. Details related to the analysis and evaluation of the other buildings in listed above in Table 4 are located in Attachment 8.

The commercial buildings identified as **Paddy's** and **Corner Beverage** (920-928 and 923 East 222nd Street) appear to have high integrity (Attachment 10). Common architectural elements include yellow tapestry brick facades, stone lintels and sills, and stone-capped parapets with raised central bay and corner piers. **Paddy's** is actually two connected buildings. The corner building is 2 stories in height and features a cut-away corner entrance, transom windows, a box oriel side bay, central bay second floor entry capped by a small segmental arch canopy, brick frieze paneling, and recessed second floor window spandrels articulated by corbelling. The smaller attached building has a recessed entry flanked by display windows with transoms. One of the display windows appears to be filled-in and the building's lack of detail suggests a possible 1940s or 1950s construction date.

Corner Beverage, which is located across the street from Paddy's, features a hip roof facade-length canopy covered with curved ceramic roofing tiles. Below this roof/ canopy feature the facade is separated by a pier into two storefronts. One storefront consists of a recessed entry flanked by display windows and the other smaller storefront is an end recessed entry and one adjacent display window. The original display and transom window fenestration pattern appears intact. Piers of the facade have vertical panel outlines appearing to consist of darker header bricks.

NRHP Evaluation: These buildings are considered eligible for NRHP listing as strong representatives of a commercial architecture associated with the streetcar suburban expansion and Euclid's early 20th century development. The CLG Survey Report does not identify them as a historic district.

Summary of NRHP Eligibility Findings

Six properties in the Undertaking's APE have been identified as being eligible for listing in the NRHP. Those properties are:

1. Nottingham Purification Plant
2. Euclid City Hall
3. North Street School
4. Roosevelt School
5. Paddy's
6. Corner Beverage

Four of these properties (Nottingham Purification Plant; Euclid City Hall; North Street School, Roosevelt School) were among the previously identified as OHI properties and discussed in our May 14, 2010 letter to OHPO. Two of these properties (Paddy's; Corner Beverage) were identified by the CLG Survey.

Assessment of Effects on Historic Properties

Assessing the potential effects of the proposed Undertaking on historic properties in the APE included consideration of whether or not historic properties may be directly or indirectly affected by visual, audible, or atmospheric intrusions, shadow effects, vibrations from construction activities, or a change in access or use as a result of improvements to the property. However, since the Undertaking is located in a dense urban environment whose character will not likely be changed by the Undertaking, and there will be no demolition or physical changes to any historic property's appearance or form, it was determined that the effects analysis would primarily focus on visual and sound effects..

To be considered adverse, an undertaking's effects must change the character-defining features or elements of a historic property needed to convey its historic association. Of primary concern for this project are NRHP-eligible properties defined in part by features that emphasize each property's historic setting as a way of conveying its historic significance. Because integrity of feeling and association often round out the character of a property's historic setting; a historic property that conveys a sense of time and place is often regarded as possessing significant physical as well as intangible qualities. In order to better understand if the setting of historic properties in the APE might be adversely affected by the Undertaking, the results of a noise impact analysis and various visual effect studies were analyzed.

Potential indirect, visual effects of the wind turbine on NRHP–eligible properties have been determined, in part, by the ability of a person to see the proposed tower from the historic property. To aid in this analysis, photographs were taken from the sites toward the proposed tower location. Additional evaluation materials were prepared with which to better understand the potential visual effects of the Undertaking by the use of digital mapping and embedded aerial photographs. Lastly, a flicker effect study was carried out for the proposed project.

Noise Impacts Analysis

Potential adverse impacts resulting from noise were analyzed and discounted for the existing draft of the Environmental Assessment (EA). This analysis describes potential noise impacts as follows:

> At a distance of 330 feet, which is the location of the nearest residential rental properties, the resulting noise level [from the Undertaking will be] approximately 55 dB(A) [U.S. DOE Energy Efficiency & Renewable Energy (USDOE EERE) Website, citing Danish Wind Industry Association, Wind Turbine Sound Calculator, 2003]. However, the background noise level along East 222nd Street, where these properties are located, ranges from 55 dB to 78 dB when traffic passes along East 222nd. ... Therefore, since existing background sound levels substantially exceed sounds that would be created by the proposed wind project, noise intrusion from the wind turbine should be inconsequential in total noise emissions at this residential location.
>
> The nearest zoned residential neighborhood is approximately 1,200 feet away, across I-90 (which is blocked by a 20-foot high sound wall) and two major roadways. The combination of the fact that the nearest residential neighborhood is over 1,150 feet away from the wind turbine and the noise levels from I-90 and the major roadways that lie between the turbine and the neighbor, impacts from noise intrusion from the wind turbine are not anticipated.

This analysis will be included in the EA for the Undertaking.

Photographic Views from NRHP–eligible Properties to Project Site

The ability of a person to see the wind turbine from NRHP-eligible properties is directly relevant to whether or not there may be the potential for an adverse effect from the proposed Wind Turbine. Photographs taken from the physical location of NRHP- eligible OHI sites towards the location of the proposed Wind Turbine show that a view of the Wind Turbine from these historic sites (OHI No. CUY - 1645-22, CUY-1654-22, 1658-22, and CUY-1659-22) would likely be blocked (Attachment 11).

Theoretically, a person standing on a sidewalk in front of the **North Street School** (OHI No. CUY-1658-22) and facing northeast will have a view that contains numerous telephone poles and utility wires, 2-story residential structures, and a mature tree canopy between the residential structures. From the rear parking lot of the **Roosevelt School** (OHI No. CUY-1654-22) facing southeast, the viewshed is dominated by a grouping of trees. Facing south, from a vantage point next to the south elevation of the **Euclid City Hall** (OHI No. CUY-1645-22) the viewshed contains the new Euclid Library and the 2-story clock tower. A mature tree is immediately west of the new Euclid City Hall. A photograph depicting the view from the **Nottingham Purification Plant** (OHI No. CUY-1659-22) illustrates the viewshed of 1-2 story industrial buildings, utility poles and a high chain link and barbed wire fence. Some mature tree canopy is evident in the distance.

The remaining NRHP-eligible properties, **Paddy's**, located at 920-928 East 222nd Street and **Corner Beverage** located at 923 East 222nd Street, are in a residential area north of the I-90 and CSX rail corridor. As previously mentioned, 20-foot concrete panel noise barriers are located on both sides of the East 222nd Street stretch of I-90. Attachment 7 (Visual Simulations of Public Space Views Wind Turbine) contains an illustration of the potential view of the wind turbine from a nearby location (Photo 3: Photo simulation from View Shed of St. Christine's School Parking Lot, Euclid, Ohio. Distance is 2545 Feet from Proposed Turbine). This photograph shows the wind turbine as visible but at the same height as the adjacent tree canopy. This photograph suggests a viewshed from these NRHP-eligible commercial buildings toward the proposed wind turbine site may include the proposed Wind Turbine, or the Wind Turbine may be fully or partially masked by mature tree canopy.

Digital Mapping and Embedded Aerial Photograph Visual Analysis

This analysis assessed the view of the proposed wind turbine from the 6 NRHP-eligible sites in the APE. A theoretical line of site was determined for a six-foot tall viewer standing at each of the sites within the APE. This analysis used electronic USGS mapping and AutoCAD mapping with embedded aerial

photographs. The line of site from each location to the Wind Turbine was calculated using the relative elevation difference between each individual site and the proposed Wind Turbine. The resulting calculation found the typical angle of sight, above horizontal, at 3-4 degrees or approximately 8-11 percent slope. For every 100 feet of horizontal distance between a historic property location and the proposed Wind Turbine, the sight line rises approximately 8-11 feet.

With these relatively flat angles/slopes, it seemed apparent that nearby objects (trees, houses, and other buildings) would provide effective screening of one's view of the proposed Wind Turbine in many cases, as demonstrated in Attachment 7. This table identifies the height of objects that would screen a person's view of the Wind Turbine from 4 of the 5 NRHP eligible properties *and* how far away (in feet) the object would be from the viewer to screen the object. Distances used are listed in 50-foot increments from 50 to 500.

Table 5. Height[1] and Distance[2] of Objects that Would Screen One's View of the Wind Turbine from Potential NRHP-Eligible Sites

	North Street School	**Euclid City Hall**	**Nottingham Purification Plant**	**Roosevelt School**	**Paddy's and Corner Beverage**
	5,193 feet away	**5,144 feet away**	**5,070 feet away**	**4,194 feet away**	**1,664 feet away**
Distance[2] from the viewer (feet):	**Height[1] (feet):**	**Height[1] (feet):**	**Height[1] (feet):**	**Height[1] (feet):**	**Height[1] (feet):**
50	10.1	10.5	10.4	11.5	19.6
100	14.2	14.9	14.7	17.1	33.1
150	18.2	19.4	19.1	22.6	46.7
200	22.3	23.9	23.5	28.1	60.2
250	26.4	28.4	27.9	33.7	73.2
300	30.5	32.8	32.2	39.2	87.3
350	34.6	37.3	36.6	44.7	100.9
400	38.6	41.8	41	50.2	114.4
450	42.7	46.2	45.3	55.8	128
500	46.8	50.7	49.7	61.3	141.5

From the perspective of a 6' tall person looking from just outside the building, view of top of Wind Turbine is blocked by an object of this height[1] at this distance[2] from the viewer.

As Table 5 indicates, a line of 40 foot tall trees that is located 150 feet away from the viewer would screen the Wind Turbine for a 6 foot tall person standing at each historic property location, with the exception of Paddy's. Those same trees at a

distance of 300 feet from the viewer standing at those locations (except Paddy's) locations would also obstruct the view of the Wind Turbine.

Houses that are 25 feet in height, such as the Cape Code or Minimal Traditional style residences that characterizes much of Euclid, and that are located 200 feet from a historic property, would block the view of the Wind Turbine from the historic property. Even if the view from an OHI site to the proposed Wind Turbine did not include total blockage of the Wind Turbine, the partial screening of view would prevent the Wind Turbine from "dominating" the view shed.

The theoretical calculations from Table 5 were then put to the test using standard aerial photographs and oblique aerial photographs of the project area. Graphics were constructed to show the results (Attachment 12). Mature trees were conservatively estimated to be 40 feet tall. The heights of individual buildings were estimated using oblique aerial photographs. The two-dimensional graphics demonstrate both the direction of view towards the Wind Turbine, as well as the vertical angle of view to the top of the Wind Turbine. Trees and buildings were placed in the proper position in the vertical angle of view based on their relative locations with respect to the viewpoint.

A viewer standing just outside the south entrance of Euclid City Hall would find that the view of the Wind Turbine would be totally blocked by the Euclid Library, 300 feet away. A viewer standing on the north side of North Street School would find their view of the Wind Turbine screened by the trees of a woodlot beginning about 75 feet northeast of the school. Due to the length of the sightline through this woodlot, it is likely that total screening would occur even in winter conditions. The graphics demonstrate that in the majority of cases, nearby trees, houses, and/or other buildings or structures screen or block the view of the Wind Turbine from the historic properties in the APE.

Shadow Flicker Effect Analysis

A shadow flicker effect analysis (Flicker Report) was conducted for the proposed wind turbine by the Cleveland-based firm JW Great Lakes Wind, LLC. (Shadow Flicker Analysis for Lincoln Electric Wind Turbine, Cleveland OH, Report to The Lincoln Electric Company, March 2010). Shadow flicker is defined as alternating changes in light intensity caused by a moving object (such as a rotating rotor blades) casting shadow on another object. Shadow flicker from a wind turbine can be caused when moving blades pass in front of the view of the sun, creating alternating changes in light intensity or shadows. Shadow flicker becomes increasingly less noticeable at distances beyond 1000 feet, except at sunrise and sunset when shadows are the longest.

Over 600 light receptors set 1 meter high were placed within 3,281 feet of the proposed site. The distance was based on several government sources that suggest shadow flicker effects become relatively insignificant beyond this distance.

Because the City of Euclid north of I-90 is a relatively dense residential area, the Flicker Report study placed receptors at every second or third house. The Flicker Report justifies this as an appropriate sampling effort given the trees, other buildings, and noise barriers along I-90 that separate the turbine from the neighborhoods north of I-90.

Results from the sensors were used to determine shadow isolines, defined as lines between two variables of equal value. The shadow isolines are given for increments of 10, 30, 50, and 100 hours of shadowing per year, which are industry standard breakdowns. A 30 hour isoline is considered the threshold for significant impact by the Ohio Power Siting Board. The results from the shadow flicker study indicate that 17 receptors receive more than 30 hours of shadow flicker per year. All 17 of these sensors are located in the industrial district south of I-90. The 30 hour isoline is well within the historic property APE. No OHI, NRHP or NRHP potential sites are located within the 30 hour shadow isoline. The wind turbine will therefore have no significant shadow flicker effect on historic properties.

Determination of Effects: Below-Ground Archeological Resources

URS conducted a desktop review of available resources to evaluate the potential for recovering archaeological resources within the APE. This desktop review included utilization of the OHPO on-line mapping system, examination of historic mapping and aerial photography, review of the soil survey data for the area, and a review of the physiographic data for the area.

The OHPO on-line mapping system locates previously recorded, known cultural resources within or near the APE. Study of the on-line mapping system included a review of the Ohio Archaeological Inventory (OAI), OHI, and the NRHP. For previously-recorded archaeological sites on the OAI, none were documented within the archeological below-ground APE. The closest recorded archaeological sites were three historic sites approximately 2.5 miles to the northeast of the APE.

Although no archaeological sites were documented within the below-ground archeological APE or within the one-mile study buffer, the OHI gives some indication that there is a potential for the recovery of historic resources within the APE, especially resources dating from the mid 19th to mid 20th century. URS reviewed historic mapping to determine if any structures had been located within the APE, which would help evaluate the potential for historic archaeological sites. Sanborn mapping, which was suggested by the OHPO, was obtained and examined.

The Sanborn mapping did not have documentation of the area before 1950, but URS examined the 1950, 1952, 1963, and 1966 maps (Attachment 13). On all of

these maps there were no structures illustrated in the APE. However, these maps did indicate the presence of structures adjacent to the APE. The 1950 Sanborn Map illustrates an industrial building directly to the east and some other structures to the west on the opposite side of the road. The 1952 Sanborn map had a portion of the APE listed as "parks" and listed the building to the east and another building to the north as the "Euclid Road Machinery Company." The information identified on the 1952 Sanborn is the same as that found on the 1963 and 1966 Sanborn mapping. URS also looked at plat maps from the 1920s. The 1920 plat map of the area, similar to the Sanborn mapping, did not illustrate structures directly within the APE, but did show two buildings located to the east and north of the APE (GM Hopkins Company 1920).

A review of the land use for this area, which included examination of aerial photographs, and archival data associated with the history of the area, indicates that the APE has been disturbed by industry development, despite historic maps not indicating the previous presence of a structure. Most recently, the area has been used as a private park for Lincoln Electric employees. This park is most likely the same park listed on the 1952, 1963, and 1966 Sanborn maps. Contractor notes associated with the construction of the park indicate that the first four inches of soil were stripped off to remove vegetation, rocks, and debris. Subsequently, topsoil was imported to fill in the stripped area.

Additional information for the area states that this parcel was owned by Euclid Incorporated from roughly 1946 to the late 1970s (Encyclopedia of Cleveland History 2004). Euclid Incorporated corresponds with the buildings labeled "Euclid Road Machinery Company" on the 1952, 1963, and 1966 Sanborn maps. This company manufactured off-highway, earth-moving, and hauling equipment, and the parcel that the APE is situated on, was used as a proving ground for this equipment. Aerial photography from 1952 and 1961 illustrates this disturbance and it is also visible on the aerial mapping within the *Cuyahoga County Soil Survey* (USDA 1980) (Attachment 14).

The archeological APE is within the Erie Lake Plain, which is a very low relief ice-age lake basin separated from modern Lake Erie by shoreline cliffs (Brockman 1998). This region marks the former extent of Lake Erie (Lake Whittelsey) as the last Wisconsin-age glacier retreated from Ohio (Ohio History Central 2010). The soil survey for Cuyahoga County indicates that the APE is within Urban land (Ub), which is where 80 percent of the surface is covered by asphalt, concrete, buildings, or manmade surfaces (USDA 1980:47). Areas contained within this mapping unit include large areas with miscellaneous materials placed in fills (USDA 1980:47).

A URS staff geomorphologist reviewed the physiographic data of the region, topographic mapping, historic aerial photography, and soil survey data for the area. That review identifies the APE as being in an area of recessional beach ridges formed when lake levels were receding (approximately 10,000 years ago).

Given the setting, it is unlikely that buried cultural deposits (similar to those in a floodplain setting) would be present. In addition, the area appears well-developed which further decreases the chances of deeply buried cultural deposits. It is the opinion of the geomorphologist that the greatest potential for archaeological material would be within the first 12 inches of soil.

In summary, as result of the desktop evidence presented above, it is the opinion of URS that the APE has a low potential for recovering archaeological resources. If archaeological resources are identified they most likely would be historic and related to the industrial activity associated with the area.

NRHP Effects Determination

After reviewing additional information and conducting further analysis for the Undertaking in response to OHPO May 20, 2010 letter, the DOE finds that the construction and installation of the proposed Lincoln Electric Wind Turbine at the southeast corner of E. 222nd Street and St Clair Avenue in Euclid, Ohio will have no adverse effect on the character-defining features of properties listed in or eligible for listing in the NRHP.

Six properties in the Undertaking's APE have been identified as being eligible for listing in the NRHP. Those properties are:

1. Nottingham Purification Plant
2. Euclid City Hall
3. North Street School
4. Roosevelt School
5. Paddy's
6. Corner Beverage

These six properties do not have settings that are considered character-defining to the extant that they define the properties' significance or eligibility for NRHP consideration. The two small commercial properties (Paddy's and Corner Beverage) that will likely have a view of Wind Turbine will not be adversely affected by the Wind Tower because a person's ability to see the Wind Turbine from these buildings will not diminish their architectural character or their association with the streetcar era development of Euclid.

Of the six, only the Nottingham Water Purification Plant has a distinctive setting that may be a compelling aspect of its significance. However, its setting also currently includes a 350' foot Radio Tower that compromises its historic setting. In addition, the visual analysis strongly indicates that a view of the proposed Wind Turbine, which is over 5,000 feet away from the water plant, is unlikely – and even then is likely to be obscured.

The DOE requests your concurrence with its determination that the Lincoln Electric Wind Turbine will have *no adverse effect* on NRHP listed or eligible properties.

While the DOE understands that your office has thirty (30) calendar days under 36 CFR Part 800 in which to respond to our determination, we would like to take this opportunity to point out that all projects that involve ARRA funding are on an extremely tight timeframe; literally every day counts in this effort to help rebuild the American economy. To maximize the period for actual site preparation and installation of the wind turbine, I am requesting that you provide comments to us within the next 10 working days after receipt of this consultation package, or even sooner if at all possible.

Should you have any questions about this information, please contact me at [Caroline.Mann@ee.doe.gov] or at 202-287-5380), or contact URS Principal Architectural Historian Jeff Winstel (Jeff_Winstel@urscorp.com; 301-258-6584).

Sincerely,

John Jediny
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy
100 Independence Avenue SW
Washington DC 20585

On behalf of:

Caroline Mann
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy
100 Independence Avenue SW
Washington DC 20585

JW:jw

attachments

cc: Franco Ruffini, Deputy SHPO, OHPO
Greg Payne, Energy Project Liaison, ODOD
Tracy Engle, URS
Jim Burns, URS
Jeff Winstel, URS
Whitney Fiore, ICF International
Jim Sonnhalter, Manager of Community Projects, City of Euclid

List of Attachments

Attachment #'s = from original letter
Attachment C-5_ = from Ea text

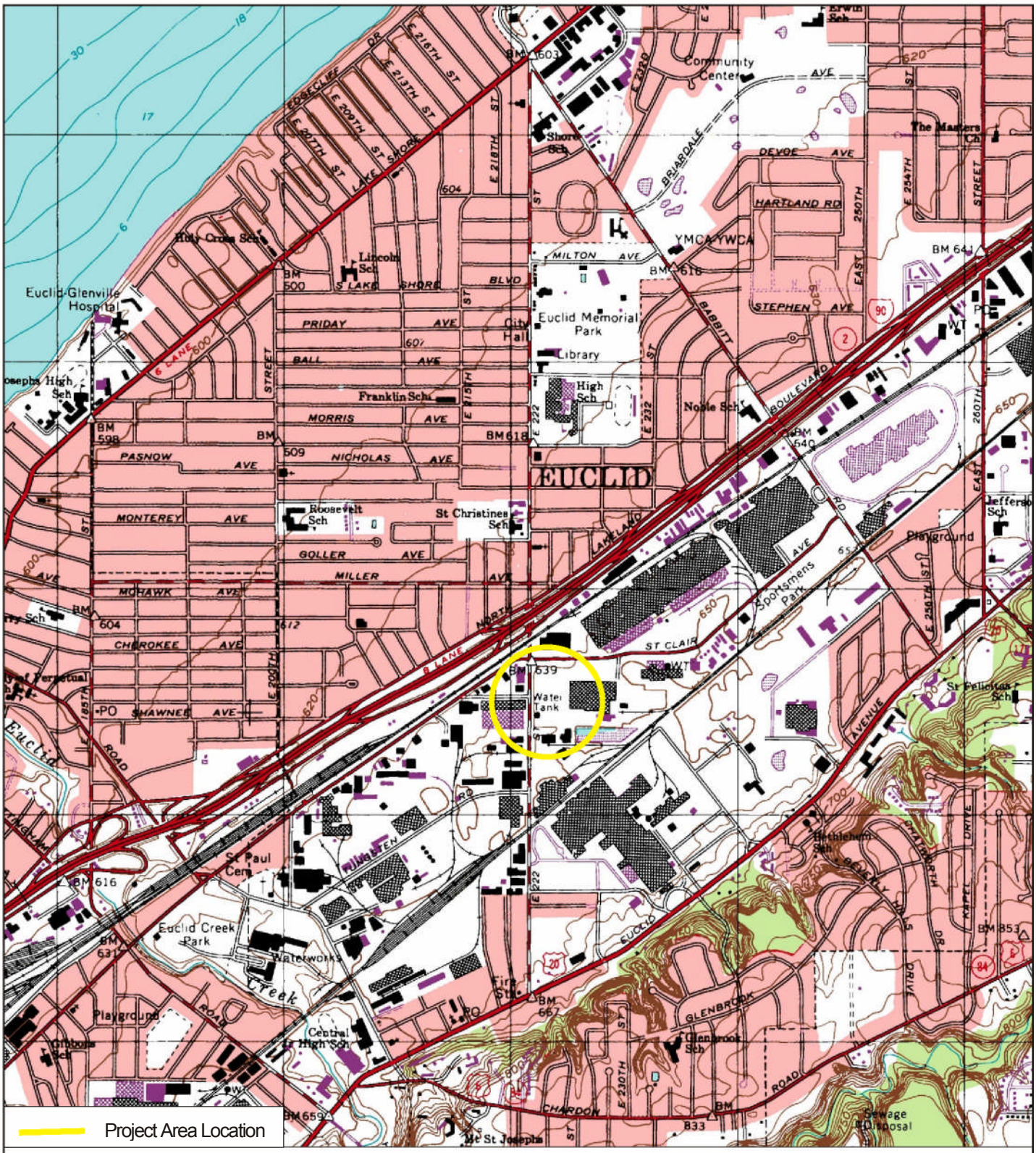
Attachment 1 (C-5a USGS Quadrangle Map Showing Project Location
Attachment 2 (C-5b Aerial View Showing Project Location
Attachment 3 (C-5c) Area of Potential Effect for Archeological Resources
Attachment 4 (C-5d) Area of Potential Effect for Above Ground Historic Properties
Attachment 5 (C-5e) Lincoln Electric Company Plans
- Campus Layout
- Existing Conditions Plan
- Site Improvement Plan

Attachment 6 (C-5f) Existing Towers in Euclid
- Composite of Local Landmarks (towers)
- Oblique Aerial Photos of Local Landmarks (towers)

Attachment 7 (C-5g Visual Simulations of Public Space Views of Wind Turbine
Attachment 8 (C-5h) Methodology, Analysis and Evaluations for the CLG Survey and OHI Properties
Attachment 9 (C-5i) Photo Log for Extant OHI Properties within the One-Mile APE
Attachment 10 (C-5j) istoric Reconnaissance Survey NRHP Eligible Properties within the One-Mile APE
Attachment 11 (C-5k) hotos of Directional Views of the Proposed Wind Turbine Site from Historic Properties
Attachment 12 (C-5l) earby Objects Blocking View of Wind Turbine
Attachment 13 (C-5m) nborn Maps for Project Site
Attachment 14 (C-5n) 61 Aerial Photographs of Archeological APE
Attachment 15 (C-5oj) incipal References Cited

Attachment 1

Attachment C-5a



1 0.5 0 1 mile

0 0.5 0 1 kilometer

N

PROJECT	Lincoln Electric Wind Turbine Project	USGS Quadrangle Map Showing Project Location	
SCALE	1"= 0.38 miles (0.61 kilometers)	URS	**PROJECT NO.** PRJ13813844
SOURCE	USGS East Cleveland, OH (1994) 7.5 minute topographic Quadrangle		**FIGURE NO.** Attachment 1

Attachment 2

Attachment C-5b

1000 0 1000 feet

300 0 300 meters

N

PROJECT	Lincoln Electric Wind Turbine Project	Aerial View Showing Project Location	
SCALE	1"= 434 feet (132 meters)	URS	**PROJECT NO.** PRJ13813844
SOURCE	Google Earth Professional		**FIGURE NO.** Attachment 2

Attachment 3

Attachment C-5c

1000 0 1000 feet

300 0 300 meters

N

PROJECT	Lincoln Electric Wind Turbine Project	Area of Potential Effect for Archaeological Resources	
SCALE	1"= 434 feet (132 meters)	URS	**PROJECT NO.** PRJ13813844
SOURCE	Google Earth Professional		**FIGURE NO.** Attachment 3

Attachment 4

Attachment C-5d

0 0.5 1 mile

0 0.5 1 kilometer

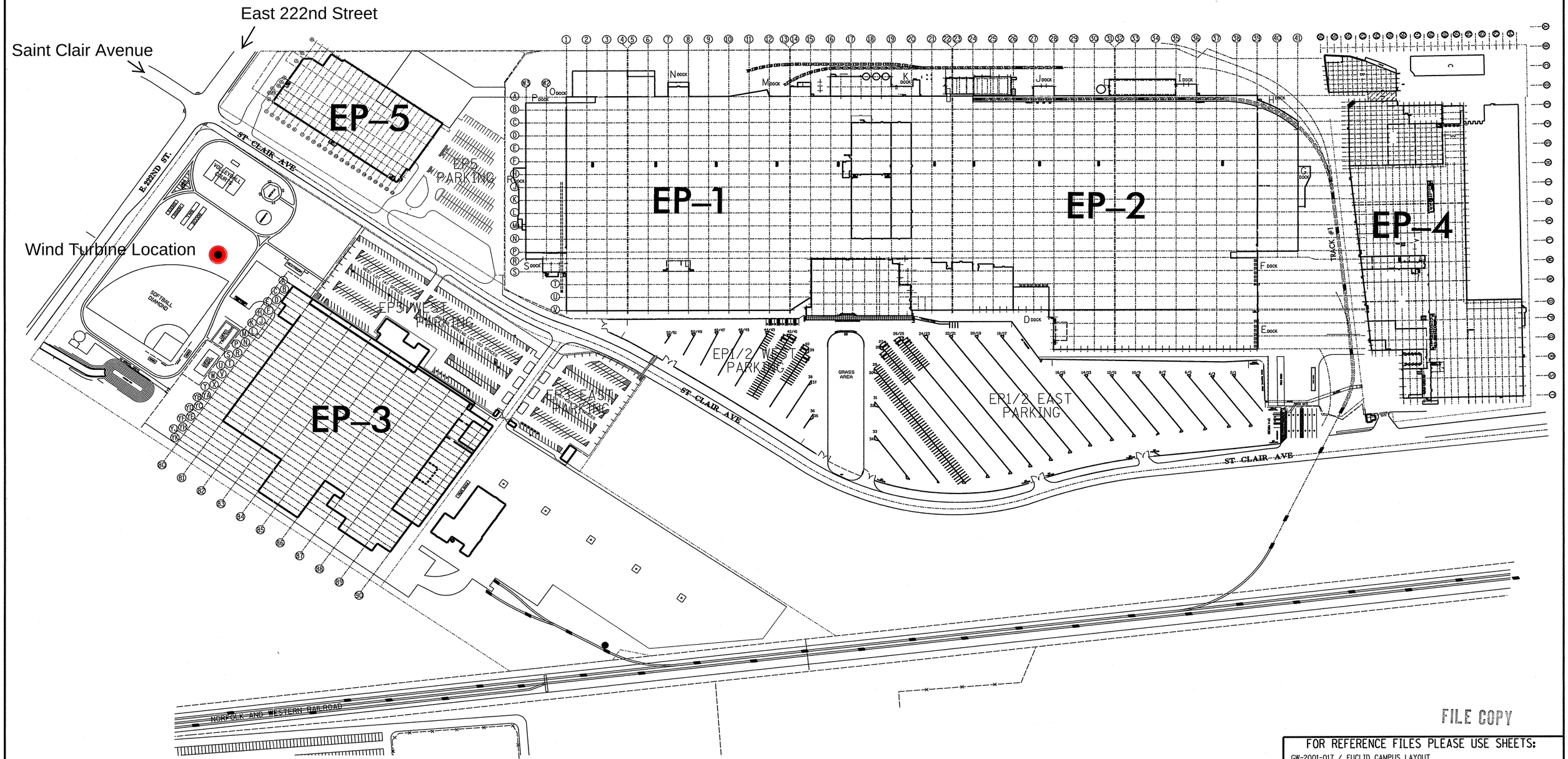
N

PROJECT Lincoln Electric Wind Turbine Project	Area of Potential Effect for Above Ground Historic Properties
1"= 1527 feet (465 meters)	**PROJECT NO.** PRJ13813844
Google Earth Professional	**FIGURE NO.** Attachment 4

URS

Attachment 5

Attachment C-5e



FILE COPY

FOR REFERENCE FILES PLEASE USE SHEETS:

GW-2001-017 / EUCLID CAMPUS LAYOUT
GW-2001-013 / EP-1/2 DEPARTMENTAL LAYOUT & SQUARE FOOTAGE
GW-2001-018 / EP-1/2 BUILDING FOOTPRINT & SITE LAYOUT
GW-2003-035 / EP-3 BUILDING FOOTPRINT & SITE LAYOUT
GW-2003-059 / EP-3 DEPARTMENTAL LAYOUT & SQUARE FOOTAGE
GW-2004-006 / EP-4 BUILDING FOOTPRINT & SITE LAYOUT
GW-2004-024 / EP-4 DEPARTMENTAL LAYOUT & SQUARE FOOTAGE
GW-2505-002 / EP-5 BUILDING FOOTPRINT & SITE LAYOUT
GW-2505-007 / EP-5 DEPARTMENTAL LAYOUT & SQUARE FOOTAGE
GW-1040-058 / MENTOR PLANT FOOTPRINT & SITE LAYOUT
GW-2005-010 / MENTOR PLANT DEPARTMENTAL LAYOUT & SQUARE FOOTAGE

CHG.	BY	DATE	DESCRIPTION
G			
F			
E	BDW	2/07/08	REVISED CAMPUS SITE PLAN
D	BDW	5/31/07	UPDATED ADDED EP-5 SITE PLAN
C	JRS	4/07/04	UPDATED EP-3 SITE PLAN, CHANGE DRAWING SCALE
B	JRS	3/21/01	CORRECTED ENGINE LIFE TEST AREA, UPDATED TITLE BLOCK
A	JRS	8/31/00	ADDED DOCK LOCATION DESIGNATIONS

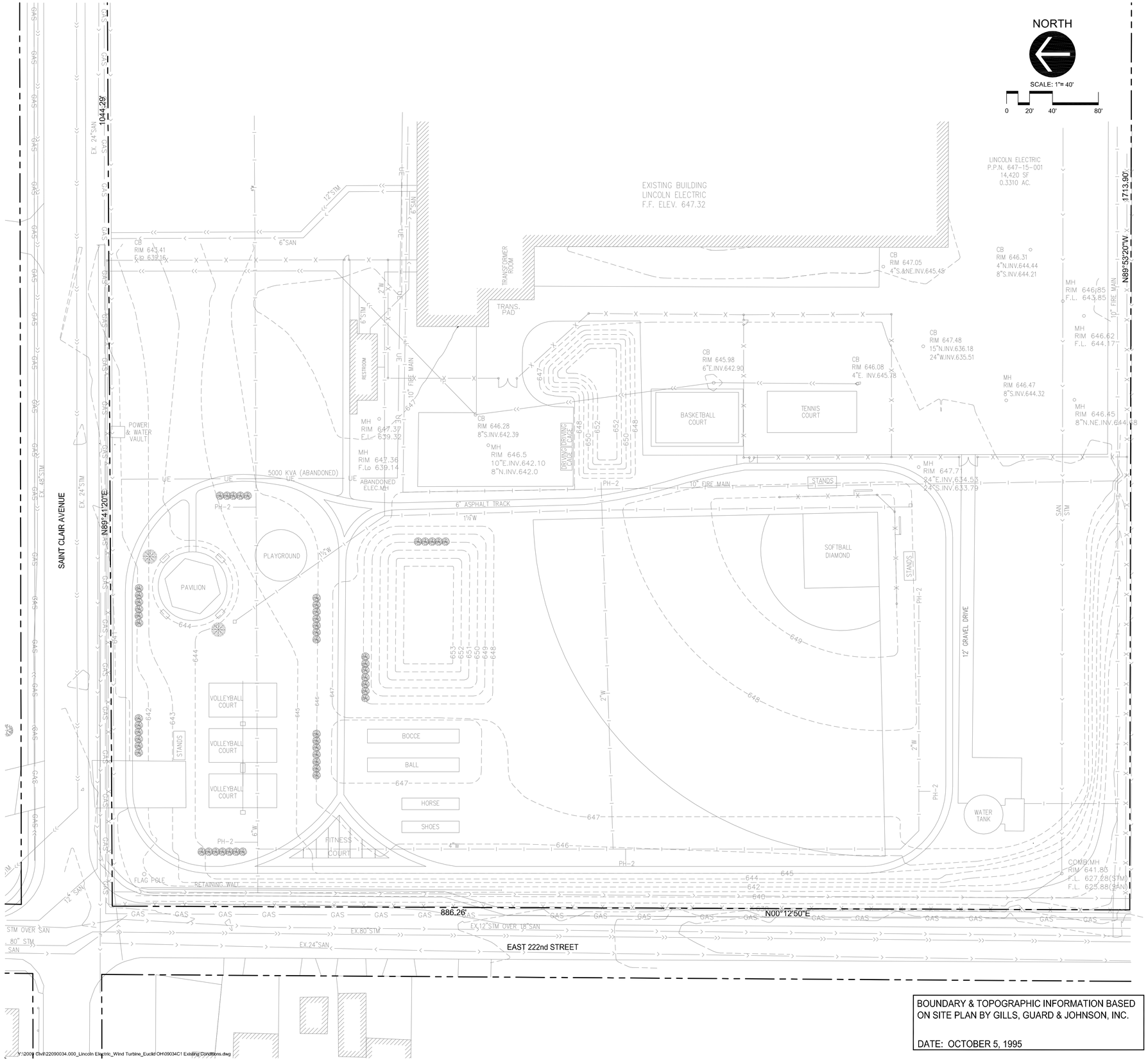
PART NO.	NAME	REQ.	MATERIAL	SIZE	REMARKS

SITE

THE LINCOLN ELECTRIC CO., CLEVELAND, OHIO

LINCOLN ELECTRIC COMPANY
CAMPUS LAYOUT
EP1 & 2, EP-3, EP-4, EP-5 & AUTOMATION

DRAWN J. SCHMIDT | DATE 4/07/04 | SCALE 1" = 133.3'
CHK'D | O.K.
MACH NO. | LOC.
GW- 2001-017 | E



BOUNDARY & TOPOGRAPHIC INFORMATION BASED ON SITE PLAN BY GILLS, GUARD & JOHNSON, INC.

DATE: OCTOBER 5, 1995

LOCATION MAP
N.T.S.

ISSUED FOR CONSTRUCTION

CALL O.U.P.S. TOLL FREE (800) 362-2764 OPERATES 24 HOURS A DAY 365 DAYS A YEAR

WARNING
CALL BEFORE YOU DIG

CALL (800) 362-2764 48 HOURS BEFORE YOU DIG

LEGEND

EXISTING		PROPOSED
	SANITARY SEWER	
	STORM SEWER	
	WATER MAIN	
	SANITARY SEWER MANHOLE	
	STORM SEWER MANHOLE	
	CATCH BASIN	
	INLET	
	VALVE IN VAULT	
	FIRE HYDRANT	
	UTILITY POLE	
	STREET LIGHT	
	LIGHT STANDARD	
621.12	SPOT ELEVATION	621.12
621	CONTOUR	621
	SURFACE DRAINAGE	
RIM XXX.XX INV XXX.XX	SANITARY MANHOLE ELEVATION	RIM XXX.XX INV XXX.XX
RIM XXX.XX INV XXX.XX	STORM STRUCTURE ELEVATIONS	RIM XXX.XX INV XXX.XX
	PROPERTY LINE & R.O.W.	
	EASEMENT LINE	
	CHAIN FENCE	
	WOOD FENCE	
UE UT	BURIED UTILITY LINE	UE UT
OE OT	OVERHEAD UTILITY LINE	OE OT

FOR BURIED AND OVERHEAD UTILITIES:
E=ELECTRIC T=TELEPHONE C=COMMUNICATIONS G=GAS

Larson Engineering Inc
1488 Bond Street, Suite 100
Naperville, Illinois 60563
(630) 355-0450 FAX (630) 355-0164
ILLINOIS LICENSE NO. 184-001442
LEIL Comm. No. 22090034.000

Client: LINCOLN ELECTRIC

Project Title: LINCOLN ELECTRIC WIND PROJECT
EUCLID, OH

Seal:

Date: January 26, 2010
Expires: December 31, 2010

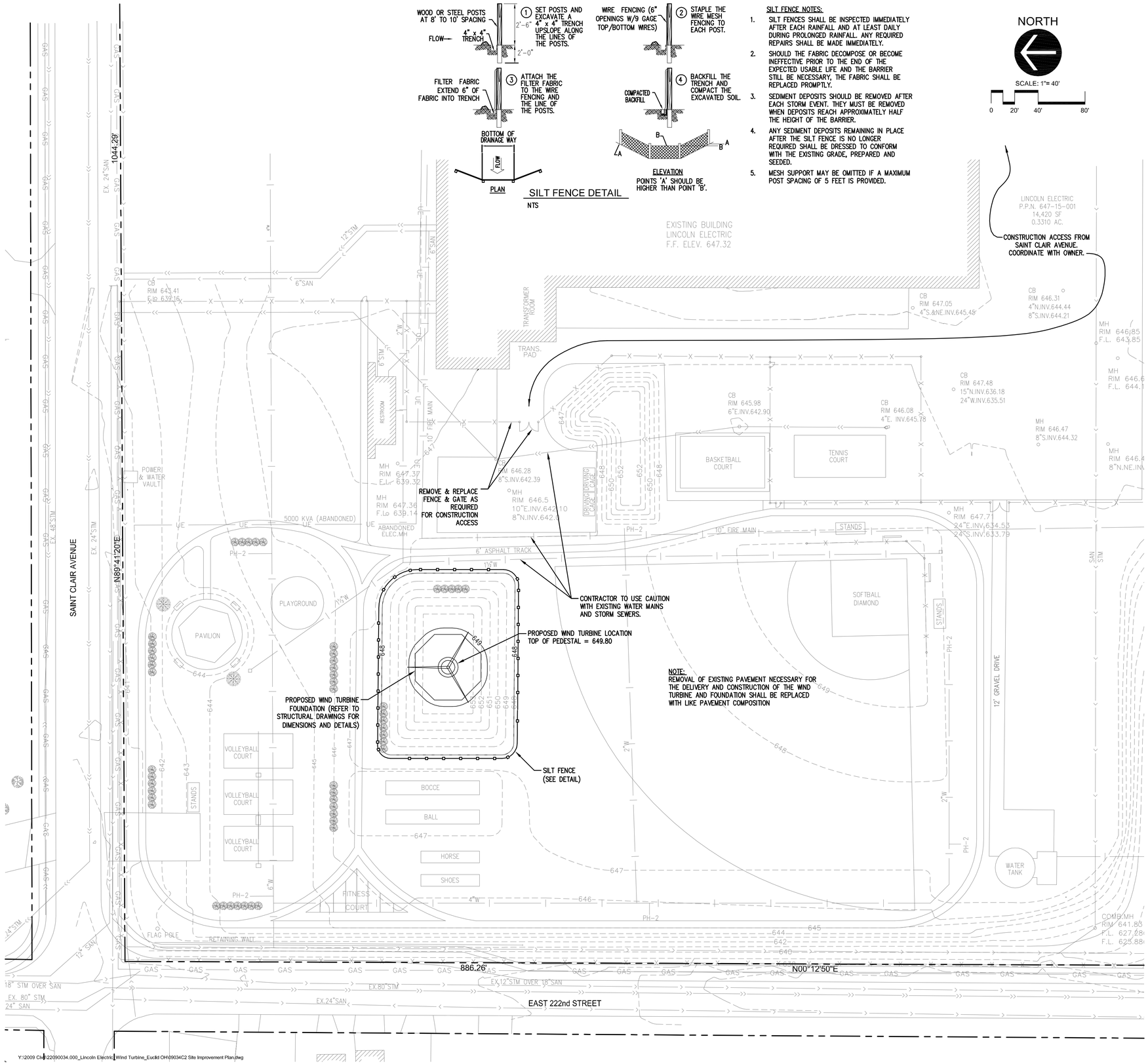
Rev.	Date	Description
1	01.26.10	Revised Location

Project #: 22090034.000
Drawn By: JLG
Checked By: BJD
Issue Date: 09.24.09

Sheet Title: EXISTING CONDITIONS PLAN

C01

Y:\2009 Civil\22090034.000_Lincoln Electric_Wind Turbine_Euclid OH\09034C1 Existing Conditions.dwg



SILT FENCE DETAIL

NTS

SILT FENCE NOTES:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY HALF THE HEIGHT OF THE BARRIER.
4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
5. MESH SUPPORT MAY BE OMITTED IF A MAXIMUM POST SPACING OF 5 FEET IS PROVIDED.

GENERAL NOTES

1. ELEVATIONS ARE U.S.G.S. DATUM.
2. DO NOT SCALE DIMENSIONS FOR FOUNDATIONS FROM THESE DRAWINGS.
3. THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS PRIOR TO THE START OF WORK. ANY DISCREPANCIES FOUND SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ENGINEER.
4. THE ACCURACY AND COMPLETE INCLUSION OF THE LOCATIONS OF EXISTING UTILITIES IS NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PRIVATE AND PUBLIC UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER, PROJECT OWNER AND UTILITY OWNER, BY THE CONTRACTOR AT HIS OWN EXPENSE.
5. THE CONTRACTOR SHALL CONTACT "OHIO UTILITIES PROTECTION SERVICE" AT (800) 362-2764 TO HAVE CERTAIN UTILITY COMPANIES FIELD LOCATE THEIR INSTALLATIONS. A MINIMUM OF TWO FULL WORKING DAYS NOTICE ARE REQUIRED FOR A FIELD LOCATION.
6. THE CONTRACTOR SHALL EXAMINE THE PLANS AND SPECIFICATIONS, VISIT THE SITE OF THE WORK AND INFORM HIMSELF FULLY WITH THE WORK INVOLVED, GENERAL AND LOCAL CONDITIONS, ALL FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, RULES AND REGULATIONS AND ALL OTHER PERTINENT ITEMS WHICH MAY AFFECT THE COST AND TIME OF COMPLETION OF THIS PROJECT BEFORE SUBMITTING A PROPOSAL. PERMITS AND LICENSES OF A TEMPORARY NATURE NECESSARY FOR THE PROSECUTION OF THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR.
7. THE CONTRACTOR SHALL BE REQUIRED TO MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS, STRUCTURES, POLES, CABLES AND PIPE LINES, BEFORE CONSTRUCTION BEGINS. HE SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE STREETS OR ROADWAYS AND ASSOCIATED STRUCTURES AND SHALL MAKE REPAIRS AS NECESSARY TO THE SATISFACTION OF THE ENGINEER AND OWNER AT HIS OWN EXPENSE.
8. THE CONTRACTOR SHALL RESTORE ANY AREA DISTURBED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL USE. THIS SHALL INCLUDE FINISH GRADING, ESTABLISHMENT OF A VEGETATIVE COVER (SEEDING OR SOD) AND GENERAL CLEANUP. THE CONTRACTOR SHALL NOT EXCAVATE OR DISTURB BEYOND PROPERTY LINE BOUNDARIES, UNLESS OTHERWISE NOTED.
9. ALL WORK PERFORMED SHALL BE DONE BY QUALIFIED CONTRACTORS AND SUBCONTRACTORS FAMILIAR WITH THE TYPE OF WORK TO BE ACCOMPLISHED.
10. ALL SITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION ", LATEST EDITION..
11. PERMITS AND LICENSES OF A TEMPORARY NATURE NECESSARY FOR THE PROSECUTION OF THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR. PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR SHALL CALL THE ATTENTION OF THE ENGINEER TO ANY MATERIAL OR EQUIPMENT HE DEEMS INADEQUATE AND TO ANY ITEM OF WORK OMITTED.
12. THE CONTRACTOR WILL HAVE IN HIS POSSESSION, ON THE JOB SITE, A COPY OF THE PLANS AND SPECIFICATIONS PRIOR TO BEGINNING WORK.
13. ANY SOIL EROSION CONTROL MEASURES, IN ADDITION TO THOSE OUTLINED IN THESE PLANS AND WHICH ARE DEEMED NECESSARY BY THE CITY ENGINEER SHALL BE IMPLEMENTED IMMEDIATELY BY THE CONTRACTOR.

SITE GRADING NOTES

1. EARTHWORK AND EMBANKMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", LATEST EDITION.
2. ALL SITE WORK SHALL INCLUDE CLEARING, STRIPPING, AND STOCKPILING OF TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTING NON-STRUCTURAL FILLS, AND FINAL SHAPING, AND TRIMMING TO THE LINES, GRADES AND CROSS-SECTION SHOWN ON THE PLANS.
3. UNSUITABLE MATERIAL ENCOUNTERED IN EXCAVATING FOR PAVEMENT SUBGRADES SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL TO THE LIMITS APPROVED BY THE ENGINEER. UNSUITABLE MATERIAL THAT IS EXCAVATED SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
4. TOPSOIL EXCAVATED SHALL BE STOCKPILED ON THE SITE IN AREAS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME THAT THIS TOPSOIL CAN BE USED FOR FINAL GRADING.
5. CONTRACTOR SHALL LANDSCAPE DISTURBED ROW BY BACKFILLING FROM BACK OF CURB TO ROW LINE WITH A MINIMUM OF 6-INCHES OF TOPSOIL & PLACING SOD. FERTILIZE TOPSOIL WITH NITROGEN, PHOSPHORUS AND POTASSIUM FERTILIZER NUTRIENT.

ISSUED FOR CONSTRUCTION

Larson Engineering Inc
1488 Bond Street, Suite 100
Naperville, Illinois 60563-5563
(630) 355-3540 (630) 355-3537
ILLINOIS LICENSE NO. 184-001442
LEIL Comm. No. 22090034.000

Client: LINCOLN ELECTRIC

Project Title: LINCOLN ELECTRIC WIND PROJECT
EUCLID, OH

Seal:

Date: January 26, 2010
Expires: December 31, 2010

Rev.	Date	Description
1	01.26.10	Revised Location

Project #: 22090034.000
Drawn By: JLG
Checked By: BJD
Issue Date: 09.24.09

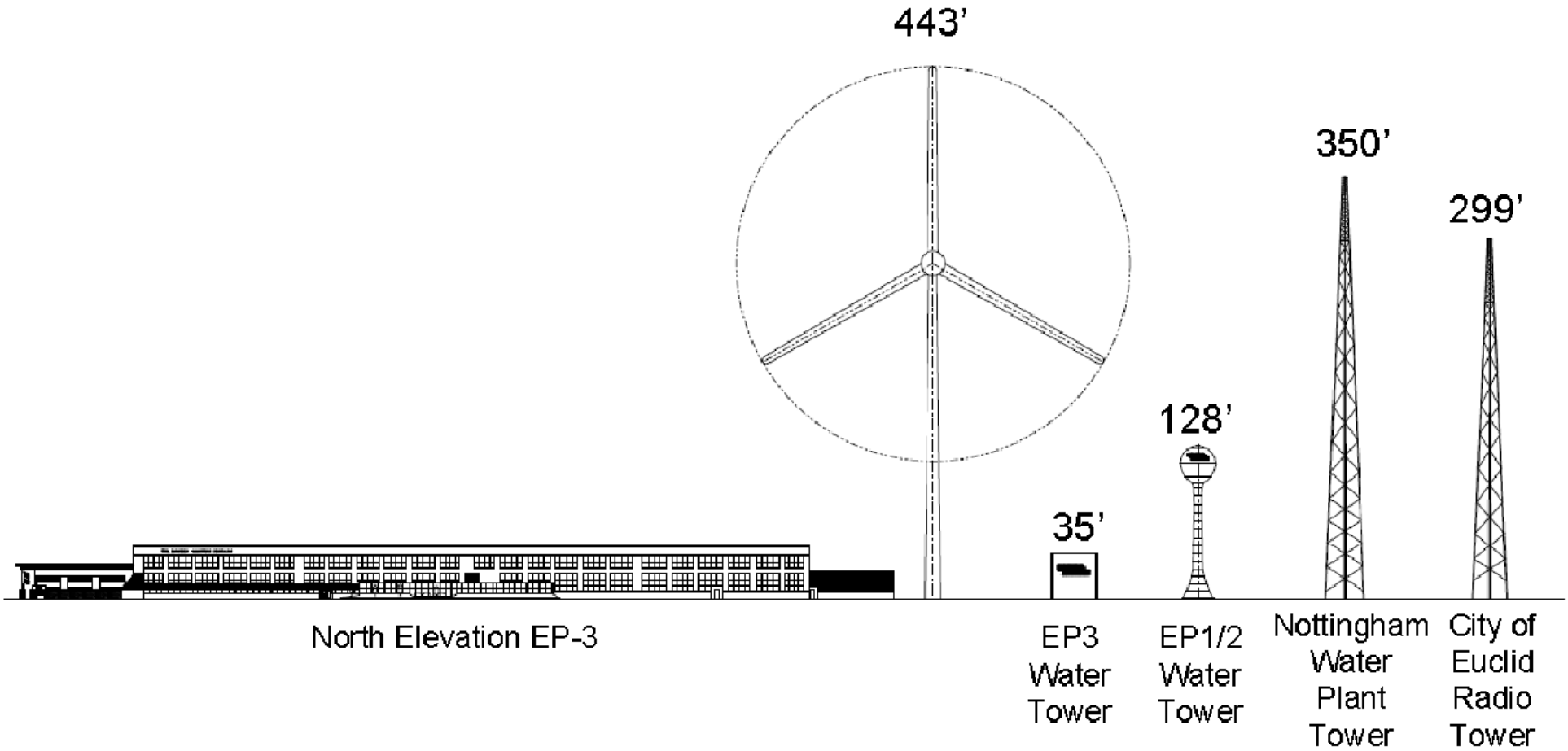
Sheet Title: SITE IMPROVEMENT PLAN

C02

Y:\2009 Civil\22090034.000_Lincoln Electric Wind Turbine_Euclid OH\09034C2 Site Improvement Plan.dwg

Attachment 6

Attachment C-5f



Composite of Local Landmarks

0 130'
1" = 130'
Vertical Scale

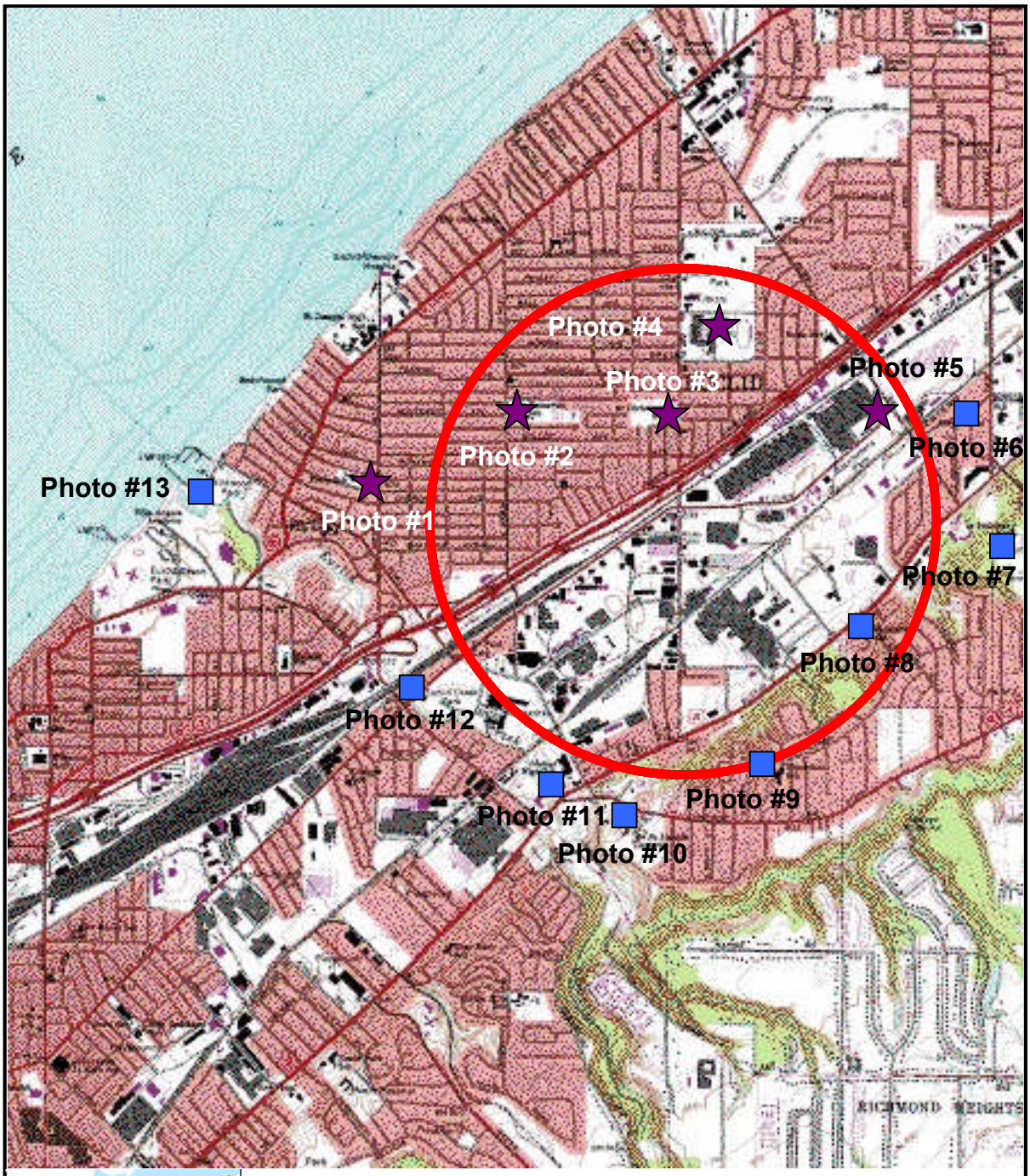
Lincoln Electric Wind Turbine
Environmental Assessment

Figure __. Composite of Local Landmarks

URS

Attachment 7

Attachment C-5g



0 2000
Scale: 1" = 2000'

PHOTO LOCATION MAP

- **Photo Point – Tower Simulation**
- **Photo Point – Tower Obscured**
- **1 Mile Radius**

PROJECT	Lincoln Electric Wind Turbine	Visual Simulations of Public Space Views of Wind Turbine	
SCALE	n/a	**URS**	**PROJECT NO.** PRJ13813844
SOURCE	URS		**FIGURE NO.** Attachment 7

Photo No. 1: Photo Simulation from View Shed of Perry School Parking Lot, Cleveland, Ohio. Distance is 6,967 Feet from Proposed Turbine.

Photo No. 2: Photo Simulation from View Shed of Roosevelt School Parking Lot, Euclid, Ohio. Distance is 4,150 Feet from Proposed Turbine.

PROJECT	Lincoln Electric Wind Turbine	Visual Simulations of Public Space Views of Wind Turbine	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS		**PHOTO NO.** 1 and 2

Photo No. 3: Photo Simulation from View Shed of St. Christine's School Parking Lot, Euclid, Ohio. Distance is 2,545 Feet from Proposed Turbine.

Photo No. 4: Photo Simulation from View Shed of Euclid High School Parking Lot, Euclid, Ohio. Distance is 4,450 Feet from Proposed Turbine.

PROJECT	Lincoln Electric Wind Turbine	Visual Simulations of Public Space Views of Wind Turbine	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS		**PHOTO NO.** 3 and 4

Photo No. 5: Photo Simulation from View Shed of Great Lakes Expo Center Parking Lot, Euclid, Ohio. Distance is 4,650 Feet from Proposed Turbine.

Photo No. 6: View Shed from Tungsten Playground at Corner of E. 269th & Tungsten Road, Euclid, Ohio. Proposed Tower Obscured by Trees in Center.

PROJECT	Lincoln Electric Wind Turbine	Visual Simulations of Public Space Views of Wind Turbine	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS		**PHOTO NO.** 5 and 6

Photo No. 7: View Shed from St. Felicitas Church & School, Euclid, Ohio. Proposed Tower is Obscured by Pine Trees on Left.

Photo No. 8: View Shed from Bethlehem Church, Euclid, Ohio. Proposed Tower is Obscured by Existing Trees in Center.

PROJECT	Lincoln Electric Wind Turbine	Visual Simulations of Public Space Views of Wind Turbine	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS		**PHOTO NO.** 7 and 8

Photo No. 9: View Shed from Glenbrook Elementary Student Entry, Euclid, Ohio. Proposed Tower Obscured by Existing Ridgeline and Trees in Center.

Photo No. 10: View Shed from St. Joseph Convent Parking Lot, Euclid, Ohio. Proposed Tower Obscured by Ridgeline & Existing Trees in Center.

PROJECT	Lincoln Electric Wind Turbine	Visual Simulations of Public Space Views of Wind Turbine	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS		**PHOTO NO.** 9 and 10

Photo No. 11: View Shed from Central Middle School Student Entrance, Euclid, Ohio. Proposed Tower Obscured by School Building.

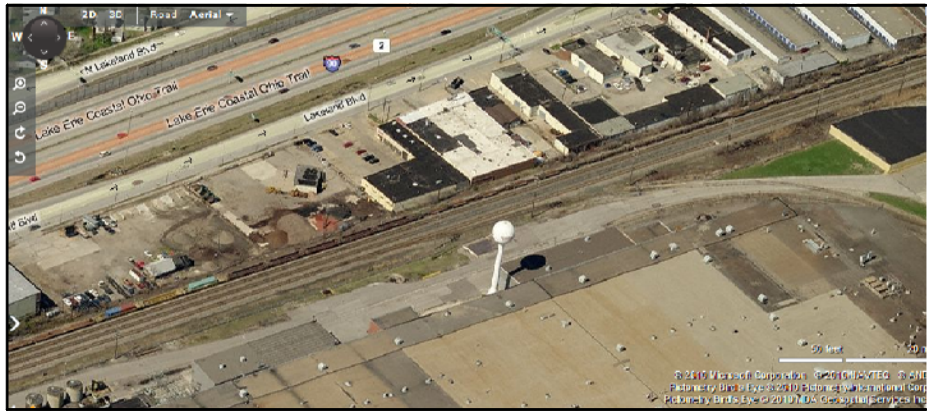
Photo No. 12: View Shed from Euclid Creek Park/Fire Station Parking Lot, Euclid, Ohio. Proposed Tower Obscured by Existing Trees in Front of Fire Station.

PROJECT	Lincoln Electric Wind Turbine	Visual Simulations of Public Space Views of Wind Turbine	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS		**PHOTO NO.** 11 and 12

Photo No. 13: View Shed from Wildwood State Park, Cleveland, Ohio. Proposed Tower Obscured by Existing Trees in Center.

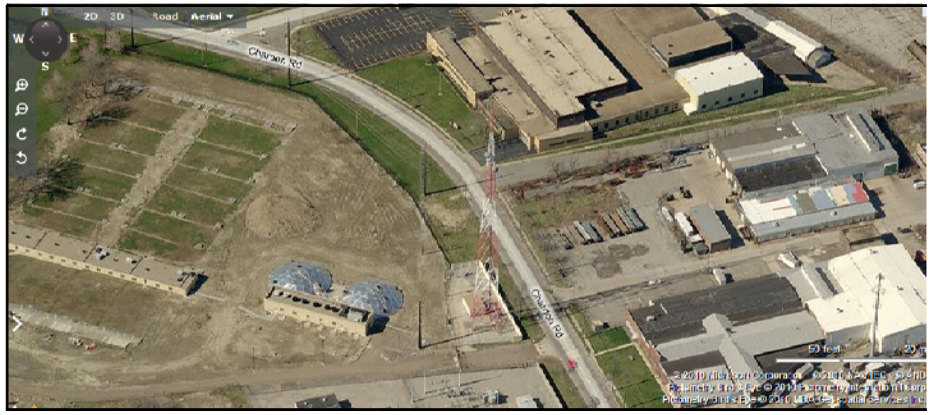
PROJECT	Lincoln Electric Wind Turbine	Visual Simulations of Public Space Views of Wind Turbine	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS		**PHOTO NO.** 13

35'-high EP3 water tower on Lincoln Electric Company property, 562' (0.106 mi) SSW of proposed wind turbine



128'-high EP1/2 water tower on Lincoln Electric Company property, 2,565' (0.486 mi) NE of proposed wind turbine

299'-high City of Euclid Radio Tower, 6,003' (1.137 mi) N of proposed wind turbine



350'-high Nottingham Water Plant Tower, 5,198' (0.984 mi) SW of proposed wind turbine

0 150'

1" = 150'

Lincoln Electric Wind Turbine
Environmental Assessment

Figure __. Oblique aerial photos of Local Landmarks

URS

Attachment 8

Attachment C-5h

Methodology, Analysis and Evaluations for the
CLG Survey and OHI Properties

CLG Survey Methodology

In 2009 the City of Euclid, in partnership with the Euclid Landmarks Commission, applied for and received Certified Local Government-funded Historic Property Reconnaissance Survey (CLG) grant from OHPO to fund qualified consultants to conduct a citywide reconnaissance survey of historic properties. Benjamin D. Rickey & Co. of Columbus, Ohio, whose Principals are, Jeffrey Darbee and Nancy Recchie, each with over 35 years professional historic preservation experience and who meet the *Secretary of the Interior's Professional Qualification Standards* (36 CFR Part 61) Professional Qualifications in the areas of Architecture and History, are responsible for all aspects of the project. The current CLG survey is designed to accomplish the following tasks:

- Undertake a Reconnaissance Survey of the entire City of Euclid and prepare 80 to 90 new Ohio Historic Inventory forms;
- Update existing Ohio Historic Inventory (OHI) forms for surveyed properties, and;
- Prepare a Survey Report summarizing the results of the survey and identifying areas for further survey work.

NRHP recommendations are not included in the scope of work for this project due to the reconnaissance nature of the survey.

The time period of 1809 to 1959 is being used for the project, which encompasses development of the area from the early New England extended cultural influences and settlement patterns to mid 20th century post-WWII development. The survey identifies representative property types associated with important themes in the community's history. Historic themes identified are

- Early Township Settlement
- Railroad and Industrial Development
- Interurban and early 20th Century Residential Development
- Automobile Related Suburban Development
- Commercial Development
- Public and Private Institutional Development
- Ethnic Composition of Community

Property Types identified include

- Public Buildings (government and schools)
- Churches

- Commercial Buildings
- Industrial Buildings and Complexes
- Residential (single and multi-family)
- Social Halls
- Recreational Facilities

The consultants coordinated their preliminary investigation with the Euclid Landmarks Commission, requesting the commission members suggest additional property types to help ensure the project benefits from an informed local perspective. The City of Cleveland (also a CLG) and the Cleveland Landmarks Commission provided additional input into the specific properties to be included in the survey.

A windshield survey was conducted throughout the city to identify possible candidates for documentation on OHI i-forms. Notations were added to a city map identifying candidates, historic themes and property types. This methodology allowed for the identification of properties to reflect geographic distribution throughout the city, a wide range of property types, and each of the historic themes.

A preliminary list of candidates for OHI documentation was developed with the Euclid Landmarks Commission. Additional field work for these properties included photography, mapping and additional field notes. Local histories and local historians, notably members of the Euclid Historical Museum and Society the Cleveland Landmarks Commission, were consulted for information on each property. OHI i-forms are being drafted for each property.

The following excerpt from the May 2010 draft survey report provides some historical and geographic context for Euclid's industrial character.

> Euclid had and continues to have an extensive industrial base and some of these industries are located in buildings that date from the early to mid-20th century. The industrial uses are concentrated along and between the railroad lines that run parallel east-west routes through the center of the city. Examples of historic industrial buildings and complexes recorded in this survey are representative of the rich industrial history of the community.

The report goes on to discuss railroad related resources as follows:

> The railroads were very important factors influencing the development of Euclid, however, no historic railroad-related buildings that have maintained integrity could be found. One building was identified but it had been substantially altered and was not included in the survey.

The report concludes with recommendations for future survey work. These recommendations identify the following areas or historic themes:

Lakefront Beach Club Neighborhoods (early 20th century)

Euclid Housing Project (1934 – 1937)
Ethnic Survey

Lakefront Beach Club Neighborhoods are all located outside the APE along Lake Erie approximately 2 miles north of the proposed wind turbine site. The Euclid Housing Project was "located on scattered sites," suggesting no potential for a contiguous historic district. The CLG survey identified one site related to Slovakian ethnic history, and the report noted that several ethnic groups contributed to Euclid's ethnic history. The CLG City of Euclid Reconnaissance Survey Report recommends additional research is needed to identify individual sites, areas or neighborhoods that might be associated with the city's ethnic history. That effort is outside the scope of this consultation.

OHI Properties: Methodology and NRHP Eligibility Assessment

Resources recorded by the OHI with individual OHI forms included ten properties within the APE (Table 1). Limited field and desktop investigation was undertaken to confirm that all ten properties recorded in the OHI forms remained extant. These tasks were performed using photographs taken during field survey conducted by URS Corporation in May 2010 and the specific OHI forms, which include "Site Plan with North Arrow," and a map to identify the location of each property. This further verification of extant properties was based on the most up-to-date information and imagery provide by *Google Earth Professional* computer software, which provides GIS-based aerial and street view imagery updated in May 2007.

Table 1. OHI Properties Within APE

OHI Number	Resource Name	Address
OHI No. CUY-1645-22	Euclid City Hall	585 East 222nd Street
OHI No. CUY-1658-22	North Street School	21129 North Street
OHI No. CUY-1643-22	North Street Elementary School	21103, 21105 North Street
OHI No. CUY-1654-22	Roosevelt School (Noble School)	1551 East 200th Street
OHI No. CUY-1659-22	Nottingham Purification Plant	1300 Chardon Road
OHI No. CUY-1644-22	Ajax Manufacturing Company	1441 Chardon Road
OHI No. CUY-1650-22	A.A. Aiken; George W. Woodworth; C.S. Tracy, House	Euclid Ave. at TRW Drive
OHI No. CUY-1657-22	F. L. Priday Residence	1530 212th Street
OHI No. CUY-1652-22	L. Priday Residence	678 East 222nd Street
OHI No. CUY-1651-22	N/A (Present Name on OHI: 1731 Beverly Hills Drive)	1731 Beverly Hills Drive

Two of the eight properties were found to be no longer extant -- OHI No. CUY-1657-22 and OHI No. CUY-1650-22. A small 1970s multi-unit residential building now occupies the former location of OHI No. CUY-1657-22. A large multi-unit residential building(s) occupy the former location of OHI No. 1650-22 (the Aiken, Woodworth, Tracy

House).OHI No. CUY-1650-22's status was further confirmed by a telephone interview with John Williams, President of the Euclid Historical Museum. Investigation suggests a section of the original premises has been developed as an apartment complex and there are no buildings present in the location of the building recorded on OHI No. CUY-1650-22.

The remaining 8 OHI properties were evaluated using the original OHI forms and photographs taken during field survey to determine their eligibility for listing in the NRHP through the application of the NRHP Criteria for Evaluation (Attachment 8). Both the historic context and the period of significance used to conduct this evaluation were drawn from the CLG Survey Report. While all Criteria of the NRHP were considered, given the limits of the information obtained through the methods described above, evaluation was weighted towards Criterion C as that criterion is primarily based upon physical attributes that may be observed through exterior photographs.

The 8 OHI properties also underwent NRHP evaluation as contributing properties in a historic district. Using the CLG Survey Report, photographs taken during URS's field survey, and through desktop analysis using *Google Earth Professional*, it appears that none of the NRHP eligible properties are contiguous. The CLG Survey Report supports a determination that none of the properties found eligible in this report are part of a NRHP-listed or potential historic district. Properties identified by the CLG Survey Report as contributing resources in a potential historic district are located outside of the APE. Considering the photographs taken during field survey and the desktop analysis using *Google Earth Professional*, none of the properties found eligible in this report appear to be in a historic district nor is a potential historic district known to be within the APE. Therefore, it was determined that additional individual analysis of each property evaluated for this report as a contributing resource in a historic district would not be conducted.

Carrying equal weight with the NRHP Criteria for Evaluation is the property's integrity. If properties were determined to possess historic significance under the NRHP Criteria, they were also evaluated to determine whether or not they retained physical integrity, using NRHP Bulletin 15, How to Apply the National Register Criteria for Evaluation, which defines integrity as the ability of a property to convey its significance. Integrity analysis was based on the photographs taken during field survey.

OHI No. CUY-1643-22 is a one-and-a-half-story red brick building located at 21103 and 21105 North Street. The building is rectangular in plan featuring a projecting wood vestibule and a front-gable roof pierced with wide shed dormers on each side. Other notable features include stone lintels; wood windows on the first floor; replacement windows on the second floor; a rear addition clad in artificial siding; a basement foundation with stone detailing; and Colonial Revival stylistic elements in the design of the vestibule. According to the OHI form, this building was constructed in 1870 as a school and is present on an 1874 atlas. The OHI form also indicates that the building was moved closer to the road to serve as a residence between 1914 and 1920.

If the OHI form is correct about the date of construction, then OHI No. CUY-1643-22 is an early local school, representing the themes of "Railroad and Industrial Development (1850s-1959)" in the City of Euclid's Reconnaissance Survey Report. OHI No. CUY-1643-22 has undergone substantial changes since its construction in the 1870s. These changes include relocation closer to the road; replacement of the original windows; the addition of the Colonial Revival vestibule, which does not appear to be original to the building; the addition of vinyl siding; the addition of the wide shed dormers to the gable roof; and the conversion of the public school building into a residence. Although the interior was not observed for this analysis, it is presumed that changes to the interior of the building in converting it from a school to a residence would be considerable.

NRHP Evaluation: The amalgamation of these changes detracts from the character-defining features essential to the understanding of this building as a school. Integrity of location, design, materials, association, and feeling has been compromised as a result of the physical changes, and the building no longer retains integrity sufficient to represent its historic significance. Because the building no longer maintains physical integrity sufficient for listing in the NRHP, the DOE has determined that OHI No. CUY-1643-22 is not eligible for listing in the NRHP. The building is not known to possess historic significance under Criteria A, B, C, or D of the NRHP.

OHI No. CUY-1644-22 is two-story red brick industrial building located at 1441 Chardon Road. The building is irregular in form and has an elevated central bay with a projecting central entrance bearing the company name in a carved decorative panel above the door. Other notable features include a pronounced central bay, monitor with a clerestory; stone coping; and a mix of metal and replacement windows. According to the OHI form, the building was constructed in 1924 for the Ajax Manufacturing Company—a Cleveland-based producer of nuts, bolts, and machinery.

NRHP Evaluation: OHI No. CUY-1644-22 appears both in form and style to be a normative example of industrial buildings of its period of construction in the highly industrialized greater Cleveland area. While this building maintains stylistic details indicative of Art Deco architecture, it does not appear to be a distinctive example of type, period, or manner of construction. The building was constructed for the Ajax Manufacturing Company and, while this business survives as an enterprise, it is not known to be connected to a significant historical event and/or person nor is it a distinct representation of a significant historical movement. The DOE has considered these factors and finds that the building is not known to possess historical significance under Criteria A, B, C, or D. The DOE has determined that OHI No. CUY-1644-22 is not eligible for listing in the NRHP.

OHI No. CUY-1645-22 is a two-story public building located at 585 East 222nd Street. The stone building is rectangular in plan with a high-pitched hip roof, the front slope of which is interrupted by a central parapet and a stone panel bearing the name "Euclid City Hall." Other features include a symmetrical five-bay façade; a fan light above the entrance on the second floor; a one-story semi-circular portico supported by Tuscan columns over the central entry; original multi-light wood windows; a partially-raised, lit

basement; and a prominent molded cornice. A large contemporary public building was constructed north of the city hall building. The two buildings are connected by a one-story hyphen extending from the east (rear) elevation of city hall building. While two buildings are connected, the contemporary building is clearly distinguished from the original block.

According to the OHI form, after a fire destroyed the original city hall in 1929, plans for this replacement building were underway in conjunction with the WPA in 1934. The City of Euclid and the WPA began construction in 1938 and the building was dedicated on June 8, 1938. WPA construction was renowned for its use of stone-masonry construction as exhibited by the city hall building. The use of rough-cut stone was most prevalent in one-room school houses, but was also used in city halls and community buildings. The city hall currently serves as the National Cleveland-Style Polka Hall of Fame, which is operated by the American Slovenian Polka Foundation.

NRHP Evaluation: OHI No. CUY-1645-22, completed in 1938 as a city hall, served as Euclid's primary municipal building from the time of its construction until it was converted to a museum in 1987. The construction of the city hall relates to the city's industrial and residential growth, which prompted the incorporation of Euclid from a village to a "city" in 1930. The DOE has determined that this building is locally significant under Criterion A of the NRHP as it represents broad patterns of American History in Euclid. The property is not known to possess historic significance under Criterion B, C, or D.

The city hall building, itself, has undergone minimal change over time. These changes include the connection of a large contemporary building through a hyphen, which is recessed from the primary façade and is clearly distinguishable from the original block. One set of side doors have been replaced with metal-and-glass versions. Otherwise the building has undergone very little change since its original construction and, therefore, retains integrity of setting, location, materials, design, workmanship, association and feeling. Because the building maintains physical integrity sufficient to convey its historic significance, the DOE has determined that OHI No. CUY-1645-22 is eligible for listing in the NRHP under Criterion A.

OHI No. CUY-1651-22 is a substantial three-story detached single-family dwelling located at 1731 Beverly Hills Drive. Set into a steep hillside, the building is irregular in form and is clad in brick and stucco, with brick quoins. Other notable features include a partially-raised basement; Ionic engaged columns supporting an entablature above the garage door; a conical roof tower; brick voussoirs crowned with sunburst decorations; segmental-arch dormers; and a curved balcony. According to the OHI form the building was constructed in 1925 and is Tudor Eclectic in style. The history of residency is not provided.

NRHP Evaluation: OHI No. CUY-1651-22 is a substantial dwelling with stylistic elements indicative of the Tudor Revival style. While this property represents a 1920s example of the Tudor Revival style in Euclid, the building is not considered an important

example of architectural expression during this period. The greater Cleveland area exhibits numerous buildings of this scale that are similar in both form and style. While this building maintains stylistic details indicative of Tudor Revival construction and architecture, it does not appear to be a distinctive example of a type, period, or manner of construction. The building is not known to be connected to a significant historical event and/or person nor is it a distinct representation of a significant historical movement. In consideration of these factors, the building does not appear to possess historical significance under Criterions A, B, C, or D. Therefore, the DOE has determined that OHI No. CUY-1651-22 is not eligible for listing in the NRHP.

OHI No. CUY-1652-22 is a two-story, wood-frame vernacular late Victorian-era single-family detached residential building located at 678 East 222nd Street. The building is rectangular in plan, featuring an asymmetrical façade; front-gable roof; a one-story front porch with a small gable above the porch entrance; and a central paired window on the second floor. According to the OHI form the building was constructed in 1890 and, as of 1914, the dwelling was situated on 38 acres owned by J. Priday. The Priday family owned other land in Euclid.

OHI No. CUY-1652-22 is related to the Priday family landholdings, which indicate an involvement with the late nineteenth- and early twentieth-century development of Euclid. This relationship is directly related to the historical themes of Interurban and early twentieth-century Residential Development (1890s-1920s) in the City of Euclid's Reconnaissance Survey Report. The DOE has determined that this building is locally significant under Criterion B of the NRHP representing a significant individual and/or family in Euclid contributing to the local community development. The building is an example of a vernacular late Victorian-era dwelling typical of the late-nineteenth and early-twentieth centuries and does not appear to be an important example of architectural expression during this period. The building is not known to possess historic significance under Criterion A, C, or D.

NRHP Evaluation: OHI No. CUY-1652-22 has undergone numerous character-altering physical changes over time. These changes include the replacement of wood and shingle siding with vinyl; the replacement of wood windows; wholesale reconfiguration of the fenestration on at least two elevations; the replacement of wood doors; and the removal of original details in order to evoke the distinctly modern suburban feeling that is found in a new house. These changes compromise four of the seven aspects of integrity: design, materials, workmanship, and feeling. Because the building does not retain integrity sufficient to convey its historic significance, the DOE has determined that OHI No. CUY-1652-22 is not eligible for listing in the NRHP.

OHI No. CUY-1654-22 is a substantial one-story brick school building located at 1551 East 200th Street. Originally rectangular in plan, the building has received two additions and is now u-shaped in plan, retaining a hip roof that is heightened by a nearly two-story central pedimented portico supported on Tuscan columns. Other notable features include a prominent, projecting central section; symmetrically balanced fenestration with a central entrance; a semi-circular light in the pediment of the portico; brick pilasters

flanking the doorway; blind arches; and an octagonal chimney. The building has many of the distinctive traits of a Colonial Revival-style public building constructed in the early twentieth century. According to the OHI form, the building was completed in 1919 with eight classrooms as the Roosevelt School. It has since been enlarged and is now twice its original size and 27 classrooms.

OHI No. CUY-1654-22 represents the late nineteenth and early twentieth-century growth of Euclid as an educational facility of the early twentieth century. This period of growth is directly related to the Interurban and early twentieth-century Residential Development (1890s-1920s) discussed in the City of Euclid's Reconnaissance Survey Report. The DOE has determined that this building is locally significant under Criterion A of the NRHP representing broad patterns of American History in Euclid. The building is not known to possess historic significance under Criterion B, C, or D.

NRHP Evaluation: Although OHI No. CUY-1654-22 has sustained changes such as replacement doors and windows, and additions to the rear of the main block in order to increase student capacity, these changes have not detracted from the character-defining features integral to its representation as a Colonial Revival-style building and as an educational facility. These changes in materials and design have not compromised any of the seven aspects of integrity. The building retains integrity of location, design, setting, materials, workmanship, association, and feeling. Because the building maintains physical integrity sufficient for listing in the NRHP, the DOE has determined that OHI No. CUY-1654-22 is eligible for listing in the NRHP under Criterion A.

OHI No. CUY-1658-22 is a one-and-a-half-story red brick building located at 21129 North Street. This building is irregular in plan with a symmetrical façade exhibiting a central gable supported by four columns of a one-story porch at the entrance. Other notable features include projecting eaves supported by decorative brackets; a central square cupola with louvered wood panels; replacement windows; stone lintels and sills; and a basement foundation with stone detailing. The cornice, and the central gable and cupola are features indicative of Italianate buildings of the nineteenth century. According to the OHI form, the building was constructed as a public school in 1894 and is purported to be one of the oldest public buildings in Euclid.

OHI No. CUY-1658-22 is located in what remains of Euclid's early town center, consisting primarily of nineteenth- and early twentieth-century residential buildings and other more contemporary mixed-use infill. The building was the community's primary educational building during the late nineteenth and early twentieth centuries. This period of growth is directly related to key historical themes identified in the City of Euclid's Reconnaissance Survey Report: Interurban and early twentieth-century Residential Development (1890s-1920s). The DOE has determined that this property is eligible for listing in the NRHP. It is locally significant under NRHP Criterion A, representing broad patterns of American History in Euclid. The building also maintains representative features of the Italianate style of architecture including the cornice, and the central gable and cupola, and as such is locally significant under Criterion C of the NRHP as it has the

distinctive characteristics of a type, period, and method of construction. The building is not known to possess historic significance under Criterion B or D.

NRHP Evaluation: While the building has sustained changes such as replacement doors and windows and minor changes to the fenestration, these changes have not significantly compromised its integrity: the building is still able to convey its historic significance under Criteria A and C. Therefore, because the building maintains physical integrity sufficient for listing in the NRHP, the DOE has determined that OHI No. CUY-1658-22 is eligible for listing in the NRHP under Criterion A and C.

OHI No. CUY-1659-22 is a large-scale yellow brick industrial building located at 1300 Chardon Road. The building is of a substantial massing with multiple tiers and a central tower, all of which are stepped back from the ground-level elevation. Other notable features of the building include a flat roof; string courses and black coping; large lettering over the entrance spelling out "Nottingham Filtration Plant" and raised decorative stone panels individually within the façade. According to the OHI form, the WPA initiated plans for construction of the plant in the 1930s, but it was not completed until 1951. The building was designed by Havens & Emerson—an Ohio-based architectural-engineering firm.

Within a larger context OHI No. CUY-1659-22 represents the development of a water purification plant in connection with the WPA in Euclid and the city's most recent period of growth and development, which ended in 1959. The DOE has determined that this building is locally significant under Criterion A of the NRHP representing broad patterns of American history in Euclid. The building is the central and largest building of the Nottingham Filtration Plant—one of three wastewater plants that provided treatment for Cleveland and several suburbs in the mid-twentieth century. Because the design of the building commenced in the 1930s and actual construction was not completed until the 1950s, the building represents elements of the Art Deco and/or Art Moderne styles indicative of construction and design between 1920 and 1940 in what has been called the modernistic period.

Stylistic elements of the modernistic period include the smooth yellow brick, the stepped levels and vertically projected tower, the flat roof with coping at the roof line, the asymmetrical fenestration, and the Art Deco lettering above the entrance. The DOE has determined that this building is locally significant under Criterion C of the NRHP as it has the distinctive characteristics of a type, period, and method of construction. The building is not known to possess historic significance under Criterion B or D.

NRHP Evaluation: Although OHI No. CUY-1659-22 has sustained changes such as replacement doors and windows, these changes have not detracted from the primary character-defining features integral to its representation of historic significance. These changes in materials have not significantly compromised any of the seven aspects of integrity. Therefore, the building retains integrity of location, design, setting, materials, workmanship, association, and feeling. Because the building maintains physical integrity

sufficient for listing in the NRHP, the DOE has determined that OHI No. CUY-1659-22 is eligible for listing in the NRHP under Criteria A and C.

The commercial buildings identified as **Paddy's** and **Corner Beverage** (920-928 and 923 East 222nd Street) appear to have high integrity (Attachment 9). Common architectural elements include yellow tapestry brick facades, stone lintels and sills, and stone-capped parapets with raised central bay and corner piers. **Paddy's** is actually two connected buildings. The corner building is 2 stories in height and features a cut-away corner entrance, transom windows, a box oriel side bay, central bay second floor entry capped by a small segmental arch canopy, brick frieze paneling, and recessed second floor window spandrels articulated by corbelling. The smaller attached building has a recessed entry flanked by display windows with transoms. One of the display windows appears to be filled-in and the building's lack of detail suggests a possible 1940s or 1950s construction date.

Corner Beverage, which is located across the street from Paddy's, features a hip roof facade-length canopy covered with curved ceramic roofing tiles. Below this roof/ canopy feature the facade is separated by a pier into two storefronts. One storefront consists of a recessed entry flanked by display windows and the other smaller storefront is an end recessed entry and one adjacent display window. The original display and transom window fenestration pattern appears intact. Piers of the facade have vertical panel outlines appearing to consist of darker header bricks.

NRHP Evaluation: These buildings are considered eligible for NRHP listing as strong representatives of a commercial architecture associated with the streetcar suburban expansion and Euclid's early 20th century development. The CLG Survey Report does not identify them as a historic district.

Table 2. CLG Survey
Proposed List of Properties to Survey in APE

Building Type	Resource Name	Address	NRHP Eligible
Public Building	Fire Station #9	Euclid at E. 221st Street	No
Church	St. Christine Church/School	East 222nd Street	No
Church	St. Paul Church/School	1231 Chardon Road & E. 200th	No
Church	Our Lady of Lourdes Shrine	across from 21351 Euclid	No
Commercial Building	Guy's Pizza	861 East 222nd Street	No
Commercial Building	Paddy's	920-928 East 222nd Street	Yes

Commercial Building	Corner Beverage	923 East 222nd Street	Yes
Commercial Building	DiDonato Funeral Home (formerly Brickman Funeral Home)	21900 Euclid Avenue	No
Industrial Building	Chandler Products	1491 Chardon Road	No
Industrial Building	Sunshine Products	1111 East 200th Street	No
Industrial Building	Glasscote Products	20900 St. Clair	No
Industrial Building	TAPCO	23000 Euclid (23555 Euclid Ave.)	No
Industrial Building	Powdermet, Inc. formerly Textron Airfoil Forgings	24112 Rockwell Drive	No
Residential Building	20th c. residential	23970 Effingham	No
Residential Building	20th c. residential	800 block E. 212th	No
Residential Building	A Sear's House	20701 Naumann	No
Other	Paul Serra Stadium Concession	585 E. 222 St	No
Other	Slovenian Society Home	20713 Recher	No

Several of the buildings identified in Table 2 are 1-2 story brick rectangular massed structures that evidence a generic utilitarian appearance with some basic International style influenced elements. These buildings also appear to have replacement windows – many appearing to be anodized bronze frame with thermal glass that was intended to be an energy-saving change to buildings in the 1970s and 1980s. Buildings in Table 4 that fit this description include the Fire Station #9, The Slovenian Society Home, and Sunshine Products.

TAPCO, Chandler Products, Powdermet and Glasscote are large, sprawling manufacturing complexes that have minimal stylistic references. The dominant physical characteristic of each of these buildings is their mass and scale; they represent more of an aggregation of buildings over time than planned complexes.

TAPCO is a large manufacturing complex with office headquarters paralleling Euclid Avenue and rear production areas or assembly lines running perpendicular behind the second office block. The office buildings are yellow brick International style 2-4 story buildings. The projecting central bay of the front office block is clad in masonry panels that frame a vault type monumental window that appears to consist of dark square glass panels.

Chandler Products appears to have a small Modernist architectural style element. A small section of the facade (presumably the office portion) is faced with pebbled cement panels attached to thin metal posts, creating a modernist curtain wall in front of what may be a smoke glass wall. This Modernist feature is dwarfed by the remaining masonry

structure and does not represent a significant example of modernist architecture for the area.

Powdermet is 2-4 story brick International style industrial complex that has a more compact or contained plan as opposed to a linear footprint. The evident horizontal bands of windows are an International Style architectural element. The building has several vertical metal panel additions and two major facades. The northern facade appears to be of later construction and is dominated by rows of vertical dark glass panels, which compromises the building's ability to be considered a significant example of International style architecture.

Glasscote is a multiple-building industrial structure with a long rectangular massing. Most of the elevations appear to be vertical metal panels – some very rusted. The west elevation appears to be an early 20th century section of the building. The stepped down stone- capped parapet, the tripartite windows, and the vertical stone decorative element in the core block end piers show a Craftsman stylistic influence. This does not appear to have been a principal facade as the elevation contains two large truck bays. In addition the windows appear to have been replaced or filled in. The building appears to have been abandoned or is now vacant as evidenced by the dead scrub vegetation and numerous abandoned cars and shipping containers in spaces adjacent to the building.

NRHP Evaluation: These seven buildings have various architectural stylistic associations and various degrees of historic integrity. None of these buildings represent an uncommon style in the urban areas of northeast Ohio, including Euclid, Ohio. These buildings are not known to have significant associations with important events or pattern of events, person(s) of historic significance, represent important architectural styles, types, or methods of construction and are not known to possess the potential to provide new information. These buildings are not considered eligible for NRHP listing under Criteria A, B, C or D.

Of the religious structures identified in the table, **St. Paul Church and School** are not found at this address. It should be noted that the list of properties to survey was assembled with the help of volunteers and is still in draft form. **St. Christine Church and School** are not considered architecturally significant. The **St. Christian School** is a two-story brick rectangular brick building with replacement windows. St. Christian Church is a large gambrel roofed building with an oversized octagonal stain glass window and a synthetic masonry front appendage that appears to date from the 1980s.

Our Lady of Lourdes Shrine, while dating from the 1920s according to their website, has many structures that appear to have been constructed in the 1960s or 70s – in addition to numerous statues, a landscaped Stations of the Cross, and a grotto replicating the famous site in Lourdes, France. Based on the available information, the shrine does not seem to merit the design standards for consideration under Criterion Consideration G: Religious Properties. The site appears to contain numerous buildings that were constructed to meet specific changing needs of visiting worshipers and the religious order

of Sisters who live at the Shrine. The Shrine complex does not reflect an overall consistent design aesthetic.

NRHP Evaluation: These religious buildings are not considered eligible for NRHP listing under Criteria A, B, C or D. These buildings are not known to have significant association with important events or pattern of events, person(s) of historic significance, represent important architectural styles, types, or methods of construction and are not known to possess the potential to provide new information.

Residential properties on the survey list include **1491 Chardon**, which is identified as a late 19th century residence. This is the same address as **Chandler Products** previously mentioned above, which is not a residential property. This is likely to be a survey error. The property identified as a **Sears House** at 20701 Naumann Street appears to be an aluminum-sided Minimal Traditional, post-dating the Bungalow or Craftsman architectural style associated with this line of mail-order houses.

The 800 block of E. 212th Street is described in the survey report as being characterized by repeating brick Cape Cod houses. These houses appear to be Minimal Traditional, rather than Cape Cod in that they have side cross gables on the facades. Although the repetition of the building type appears intact, these houses were built throughout Euclid, northeast Ohio and the many areas of America experiencing post WWII population growth and residential development – and represent a common "starter home" for returning GI's and their young families.

NRHP Evaluation: These residential buildings are not considered eligible for NRHP listing under Criteria A, B, C or D. These buildings are not known to have significant association with important events or pattern of events, person(s) of historic significance, represent important architectural styles, types, or methods of construction and are not known to possess the potential to provide new information.

The **Paul Serra Stadium Concession Building** is not visible from the road. There is a small building adjacent to one of the baseball fields that are part of the municipal complex, which includes the NRHP-eligible, WPA-constructed city hall. We believe this to be the Paul Serra Stadium Concession building. The concession stand is potentially more eligible for local landmark zoning designation as opposed to being eligible for listing in the NRHP, as its name suggests that its significance is commemorative in nature.

NRHP Evaluation: This building is not considered eligible for NRHP listing under Criteria A, B, C or D. The building is not known to have significant association with important events or pattern of events, person(s) of historic significance, represent important architectural styles, types, or methods of construction and is not known to possess the potential to provide new information.

Commercial buildings identified by the CLG Survey are predominantly yellow brick, 1-2 story, early 20th century corner-store buildings. **Guy's Pizza**, although evidencing a

Mediterranean Revival stylistic influence with its ceramic tile shed roof, has replacement windows – most notably a large single pane display window in the front first floor elevation. **DiDonato Funeral Home** appears to have been a Dutch Colonial residence that has been altered with mid 20th century, Neo-Colonial, 2 story columned porch and box shaped side addition capped by Colonial style cross-brace roof railing.

NRHP Evaluation: These two commercial buildings are not considered eligible for NRHP listing under Criteria A, B, C or D. These buildings are not known to have significant association with important events or pattern of events, person(s) of historic significance, represent important architectural styles, types, or methods of construction and are not known to possess the potential to provide new information.

The commercial buildings identified as **Paddy's** and **Corner Beverage** (920-928 and 923 East 222nd Street) appear to have high integrity (Attachment 9). Common architectural elements include yellow tapestry brick facades, stone lintels and sills, and stone-capped parapets with raised central bay and corner piers. Paddy's is actually two connected buildings. The corner building is 2 stories in height and features a cut-away corner entrance, transom windows, a box oriel side bay, central bay second floor entry capped by a small segmental arch canopy, brick frieze paneling, and recessed second floor window spandrels articulated by corbelling. The smaller attached building has a recessed entry flanked by display windows with transoms. One of the display windows appears to be filled-in and the building's lack of detail suggests a possible 1940s or 1950s construction date.

Corner Beverage, which is located across the street from Paddy's, features a hip roof facade-length canopy covered with curved ceramic roofing tiles. Below this roof/ canopy feature the facade is separated by a pier into two storefronts. One storefront consists of a recessed entry flanked by display windows and the other smaller storefront is an end recessed entry and one adjacent display window. The original display and transom window fenestration pattern appears intact. Piers of the facade have vertical panel outlines appearing to consist of darker header bricks.

NRHP Evaluation: These buildings are considered eligible for NRHP listing as strong representatives of a commercial architecture associated with the streetcar suburban expansion and Euclid's early 20th century development. The CLG Survey Report does not identify them as a historic district.

Attachment 9

Attachment C-5i

North Street School, CUY-01652-22, Southwest Elevation

North Street School, CUY-01652-22, Northeast Elevation

PROJECT	Lincoln Electric Wind Turbine	Photo Log for Extant OHI Properties within the One-Mile APE	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS Field Survey, May 2010		**FIGURE NO.** Attachment 8

Ajax Manufacturing Co., CUY-01652-22, South Elevation

Ajax Manufacturing Co., CUY-01652-22, West Elevation

PROJECT	Lincoln Electric Wind Turbine	Photo Log for Extant OHI Properties within the One-Mile APE	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS Field Survey, May 2010		**FIGURE NO.** Attachment 8

Euclid City Hall, CUY-01652-22, West Elevation

Euclid City Hall, CUY-01652-22, West Elevation (Contemporary Building/Hyphen)

PROJECT Lincoln Electric Wind Turbine	Photo Log for Extant OHI Properties within the One-Mile APE	
SCALE n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE URS Field Survey, May 2010		**FIGURE NO.** Attachment 8

1731 Beverly Hills Drive, CUY-01651-22, Southwest Elevation

PROJECT	Lincoln Electric Wind Turbine	Photo Log for Extant OHI Properties within the One-Mile APE	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS Field Survey, May 2010		**FIGURE NO.** Attachment 8

J. Priday, CUY-01652-22, West Elevation

J. Priday, CUY-01652-22, South Elevation

PROJECT	Lincoln Electric Wind Turbine	Photo Log for Extant OHI Properties within the One-Mile APE	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS Field Survey, May 2010		**FIGURE NO.** Attachment 8

Roosevelt School, CUY-01654-22, South Elevation

Roosevelt School, CUY-01654-22, East Elevation

PROJECT	Lincoln Electric Wind Turbine	Photo Log for Extant OHI Properties within the One-Mile APE	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS Field Survey, May 2010		**FIGURE NO.** Attachment 8

Euclid High School, CUY-01658-22, South Elevation

Euclid High School, CUY-01658-22, Northwest Elevation

PROJECT Lincoln Electric Wind Turbine	Photo Log for Extant OHI Properties within the One-Mile APE	
SCALE n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE URS Field Survey, May 2010		**FIGURE NO.** Attachment 8

Nottingham Filtration Plant, CUY-01659-22, South Elevation

Nottingham Filtration Plant, CUY-01659-22, Southeast Elevation

PROJECT	Lincoln Electric Wind Turbine	Photo Log for Extant OHI Properties within the One-Mile APE	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS Field Survey, May 2010		**FIGURE NO.** Attachment 8

Attachment 10

Attachment C-5j

Corner Beverage, 923 East 222nd Street, East Elevation

Paddy's, 920-928 East 222nd Street, Northwest Elevation

PROJECT Lincoln Electric Wind Turbine	Historic Reconnaissance Survey NRHP Eligible Properties within the One-Mile APE	
SCALE n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE Google Earth Professional, 2007		**FIGURE NO.** Attachment 9

Attachment 11

Attachment C-5k

Looking toward the Project Location from CUY-0164522

Looking toward the Project Location from CUY-0165922

PROJECT	Lincoln Electric Wind Turbine	Photos of Directional Views of the Proposed Tower Site from Historic Properties	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS Field Survey, May 2010		**FIGURE NO.** **Attachment 11**

Looking toward the Project Location from CUY-0165422

Looking toward the Project Location from CUY-0165822

PROJECT	Lincoln Electric Wind Turbine	Photos of Directional Views of the Proposed Tower Site from Historic Properties	
SCALE	n/a	URS	**PROJECT NO.** PRJ13813844
SOURCE	URS Field Survey, May 2010		**FIGURE NO.** Attachment 11