

Large Filing Separator Sheet

Case Number: 08-289-GA-BTX

Date Filed: 9/26/2008

Section: 4 of 4

Number of Pages: 122

Description of Document: Application for certificate

Habitat Assessment and Species Survey for the Northern Monkshood (*Aconitum noveboracense*) and the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*)
Dominion East Ohio Gas, Franklin 20-Inch Pipeline Project, Wayne and Summit Counties, Ohio

APPENDIX A

**UNITED STATES DEPARTMENT OF THE INTERIOR,
FISH AND WILDLIFE SERVICE CORRESPONDENCE**



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GAI Consultants, Inc.
Pittsburgh Office
385 East Waterfront Drive
Homestead, PA 15120-5005
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Date: 6/4/08

Project/Admin. No.: C070939.00

Call From: Mishelle Beercheck Tel No.: 412-476-2000 ext 1460

Company: GAI Consultants, Inc.

Call To: Ms. Jennifer Smith-Castro Tel No.: 614-469-6923 ext. 14

Company: United States Fish and Wildlife Service, Reynoldsburg, Ohio

Subject: Franklin 20-Inch Pipeline Project: Approval to Perform Habitat Assessments

cc: AJB, HBS, JCB, SEG

Summary of Discussion, Decisions, and Commitments:

Ms. Smith-Castro from the USFWS Reynoldsburg, OH, office was contacted to request approval of Anthony Baumert and Henry Schumacher to perform habitat assessments for the Northern monkshood and Eastern prairie fringed orchid as requested by the agency in a letter dated 05/09/08. Ms. Smith-Castro received the resumes we had emailed 5/23/08, and she confirmed that USFWS does approve Anthony and Henry to perform the assessments. However, she requested that, prior to beginning any assessment, Anthony and Henry contact plant ecologist Sarena Selbo at extension 17 to discuss the habitat characteristics on which determination will be based.

Telephone Log



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4132
(614) 469-6923 / FAX (614) 469-6919
May 6, 2008

RECEIVED
MAY 9 2008

GAI CONSULTANTS INC.
PROJ. NO _____

Stephen Gould
GAI Consultants
385 East Waterfront Drive
Homestead, PA 15120-5005

TAILS: 2008-TA-0548

Re: Dominion East Ohio proposed Franklin 20-inch storage pipeline project, Wayne and Summit Counties, OH

Dear Mr. Gould:

This is in response to your March 28, 2008 letter requesting information regarding federally threatened and endangered species at the above-referenced project site. The proposed project involves the installation of 8.7 miles of new 20-inch natural gas pipeline in Chippewa and Franklin Townships of Wayne and Summit Counties Ohio. According to your letter, the proposed pipeline follows an existing pipeline right-of-way throughout most of its length and disturbance caused by pipeline construction will be limited to a maximum 100-ft radius around the proposed centerline. Existing access roads and storage areas located within a half mile of the proposed project area will be utilized.

There are no Federal wilderness areas, wildlife refuges, or designated Critical Habitat within the vicinity of the proposed site. However, Portage Lakes State Park is very near or adjacent to the project area. We recommend you contact Ohio Department of Natural Resources, Division of Real Estate & Land Management to determine if additional consultation with the Ohio Department of Natural Resources is required.

In general, we recommend that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat, such as forests, streams, and wetlands. Best constructions techniques should be used to minimize erosion, particularly on slopes. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. We support and recommend mitigation activities that reduce the likelihood of invasive plant spread and encourage native plant colonization. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats. All disturbed areas in the project vicinity should be mulched and revegetated with native plant species. In particular, for this project, staging areas should be kept well away from streams and wetlands, and previously disturbed, open areas should be utilized wherever possible and construction right-of-ways should be quickly replanted with native vegetation following pipeline installation.

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. 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.

It appears from aerial photographs of the proposed route that suitable habitat for the Indiana bat may be present in portions of the proposed pipeline. In order for the Service to evaluate potential impacts to the Indiana bat, the Applicant must submit additional information. We recommend including the following information:

- (1) a map of the site with all forested areas indicated, including acreage;
- (2) a description of forested habitat, including dominant species composition, age, density of understory, and canopy cover;
- (3) please indicate the location of suitable roost trees (dead or live trees with peeling bark, cracks, or crevices), and describe the species, condition (live or dead), size (diameter breast high), and canopy cover;
- (4) descriptions and the sizes of any forested parcels onsite that will be preserved – preservation of forested habitat is the most significant way to minimize potential impacts to the Indiana bat and its habitat;
- (5) please note the location and size of any other forested properties within the vicinity of the project that are protected in perpetuity (e.g. parks, conservation easements, etc.);
- (6) please include the locations of any wetlands, streams, ponds, and cleared paths or trails;
- (7) describe connectivity of the site and other adjacent forested parcels;
- (8) any avoidance and minimization measures necessary to protect the bat and its habitat (such as seasonal tree clearing, temporary preservation of suitable habitat, etc.);
- (9) please include your determination of whether or not the project is likely to adversely affect the Indiana bat, using the information above as justification for your position.

Based on this information, the Service will evaluate potential impacts to the Indiana bat from the proposed project. Depending on the extent and location of impacts to suitable Indiana bat habitat, we will likely recommend mist net or emergence surveys to determine bat usage of the project area. These surveys would need to be designed and conducted in coordination with this office, and may only be completed during the summer months. If sufficient information is not provided to document a “not likely to adversely affect” determination, formal consultation under Section 7 of the Endangered Species Act of 1973, as amended, will be necessary.

The portion of the project within Summit County lies within the range of the federally threatened **northern monkshood** (*Aconitum noveboracense*). The plant is found on cool, moist, talus slopes or shaded cliff faces in wooded ravines. We recommend that the project location be examined to determine if suitable habitat for the monkshood is present. If suitable habitat is found, surveys may be necessary to determine if the plant is present. Surveys should be conducted in coordination with the Ohio Field Office.

The portion of the project within Wayne County lies within the range of the **eastern prairie fringed orchid** (*Platanthera leucophaea*), a federally-listed threatened species. This tall showy orchid is found in wet prairies, sedge meadows, and moist road-side ditches. We recommend that the project location be examined to determine if suitable habitat for the orchid is present. If suitable habitat is present, we recommend that surveys for this species be conducted in early July when the orchids are in bloom.

The project area lies within the range of the **bald eagle** (*Haliaeetus leucocephalus*). The bald eagle has been removed from the Federal list of endangered and threatened species due to recovery. This species continues to be afforded protection by the Bald and Golden Eagle Protection Act, Migratory Bird

Protection Act, and the State of Ohio. There is a known bald eagle nest approximately one mile from the proposed project location. However, due to the land use between the project area and the nest, no impact to this species is expected.

The project lies within the range of the eastern massasauga (*Sistrurus catenatus catenatus*), a docile rattlesnake that is declining throughout its national range and is currently a Federal Candidate species. The snake is currently listed as endangered by the State of Ohio. Your proactive efforts to conserve this species now may help avoid the need to list the species under the Endangered Species Act in the future. Due to their reclusive nature, we encourage early project coordination to avoid potential impacts to massasaugas and their habitat. At a minimum, project evaluations should contain delineations of whether or not massasauga habitat occurs within project boundaries.

The massasauga is often found in or near wet areas, including wetlands, wet prairie, or nearby woodland or shrub edge habitat. This often includes dry goldenrod meadows with a mosaic of early successional woody species such as dogwood or multiflora rose. Wet habitat and nearby dry edges are utilized by the snakes, especially during the spring and fall. Dry upland areas up to 1.5 miles away are utilized during the summer, if available. For additional information on the eastern massasauga, including project management ideas, please visit the following website: <http://www.fws.gov/midwest/Endangered/lists/candidat.html> or contact this office directly.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C.661 et seq.), the Endangered Species Act of 1973, as amended, and is consistent with the intent of the National Environmental Policy Act of 1969, and the U.S. Fish and Wildlife Service's Mitigation Policy.

Please note that consultation under section 7 of the ESA may be warranted for this project since suitable habitat for the Indiana bat, eastern prairie fringed orchid, northern monkshood, and/or eastern massasauga may be impacted by this project. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. If you have questions, or if we may be of further assistance in this matter, please contact Jennifer Smith-Castro at extension 14 in this office.

Sincerely,



Mary Knapp, Ph.D.
Field Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH
ODNR, Division of Real Estate & Land Management, Columbus, OH

Habitat Assessment and Species Survey for the Northern Monkshood (*Aconitum noveboracense*) and the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*)
Dominion East Ohio Gas, Franklin 20-Inch Pipeline Project, Wayne and Summit Counties, Ohio

APPENDIX B
RESUMES OF SURVEY PERSONNEL

Anthony J. Baumert

Senior Environmental Specialist

Education

B.S. Biology, St. John's University (MN), 1998

ABD Doctoral Program in Ecology and Evolution, University of Pittsburgh, 2000-2007

Professional Monitoring and Survey Experience

Trained as an ecologist, Mr. Baumert has previously worked on numerous projects involving various floras and faunas. Past experience include monitoring, survey, and research projects requiring a working knowledge of the natural floras of Minnesota, Nebraska, Pennsylvania, Panama, and Costa Rica. Systems commonly worked in have included extremely diverse lowland tropical forest sites, high diversity western short-grass and tall-grass prairie, eastern deciduous forest overstory and understory plant communities and goldenrod (*Solidago spp.*) and aster (*Aster spp.*) dominated eastern old-field plant communities. Additional projects have involved the creation of a web accessed herbarium and insect catalog, small-mammal surveys and bird and bat mist netting. Recently, Mr. Baumert has conducted field surveys and participated in monitoring projects involving federal- and state-designated threatened or endangered species as listed below:

- Threatened and endangered species habitat survey for the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*) and the Northern Monkhood (*Aconitum noveboracense*). Approved by the United States Fish and Wildlife Service. Holmes and Hocking County, Ohio (2008).
- Threatened and endangered species survey for the Loggerhead Shrike (*Lanius ludovicianus*). Pulaski County, Virginia (2008)
- Threatened and endangered species surveys for the Appalachian Shoestring Fern (*Vittaria appalachiana*) and the Northern Wild Comfrey (*Cynoglossum virginianum v. boreale*). Approved by the New York State Department of Environmental Conservation, Natural Heritage Program. Cattaraugus County, New York (2007).
- Wood Turtle (*Glyptemys insculpta*) and Eastern Box Turtle (*Terrapene carolina carolina*) monitoring. Shenandoah County, VA (2007).

Research Interests

Resource competition, plant-herbivore interactions, old-field successional dynamics, tropical and temperate forest ecology, invasive species

Teaching Experience

Teaching Positions

2000-2007 Teaching Assistant: University of Pittsburgh, Pittsburgh, PA – Courses: genetics, ecology laboratory, biology laboratory, forest ecology, ecological management, population biology

1997-1998 Teaching Assistant: St. John's University, Collegeville, MN – Course: biology laboratory

Research Experience

Research Positions

2005 Field Ecologist: Potential impacts of I-99 road construction on natural & mitigation wetlands (Co-PI: Dr. Walter Carson, University of Pittsburgh, PA).

Anthony J. Baumert

Senior Environmental Specialist

Research Positions (continued)

- 2004 Project Supervisor and Field Ecologist: Tryon Webber Woods long-term old-growth forest monitoring project (PI: Dr. Peter Quinby, Pymatuning Laboratory of Ecology, PA).
- 2000 Research Supervisor: Effects of mammalian seed predation on tropical tree diversity (PI: Dr. Walter Carson, University of Pittsburgh, PA - Barro Colorado Island, Panama).
- 1999-2000 Project Supervisor: Cedar Creek flora and fauna project (PI: Dr. John Haarstad, Cedar Creek Natural History Area, MN).
- 1999-2000 Research Supervisor: Multiple projects examining the effects of species diversity and anthropogenic climate change on plant community dynamics including productivity, stability and resistance to invasion (PI: Dr. David Tilman and Dr. Jean Knops, Cedar Creek Natural History Area, MN).
- 1998-1999 Laboratory Assistant: Parker Hughes Cancer Center (PI: Dr. Rama Krishna Narla and Dr. Fatih M. Ucken, St. Paul, MN).
- 1997-1998 Research Assistant: (Advisor: Dr. Elizabeth Wurdak, St. John's University, MN).

Grants Received

- 2005 A unified explanation for dominance and relative abundance: Integrating competition theory, predation theory and community complexity. National Science Foundation Doctoral Dissertation Improvement Grant (\$12,000)
- 2004 Integrating competition theory, keystone predation theory, and higher order interactions: Toward a unified explanation of plant community dominance and relative abundance. Pymatuning Laboratory of Ecology McKinley/Darbaker Awards (\$2,000)
- A novel evaluation of a proposed mechanism of competition. Can resource consumption predict patterns of relative abundance? Sigma Xi Grants-In-Aid of Research (\$400)
- 2003 Integrating competition theory, keystone predation theory, and higher order interactions: Toward a unified explanation of plant community dominance and relative abundance. Pymatuning Laboratory of Ecology McKinley/Darbaker Awards (\$2,200)
- 2002 Application of resource competition theory to ecosystem succession: Toward a predictive, mechanistic, and trait-based explanation of broad scale patterns. Pymatuning Laboratory of Ecology McKinley/Darbaker Award (\$2,600)
- Applying resource competition to broad scale patterns in vegetation: Using traits to predict competitive outcomes, species distributions and local abundance. Pennsylvania Academy of Science Graduate Research Award (\$275 renewal)
- Integrating competition theory, keystone predation theory, and higher order interactions: Toward a unified explanation of plant community dominance and relative abundance. Botanical Society of America, Karling Graduate Student Research Award (\$500)
- Application of resource competition theory to ecosystem succession: Toward a predictive, mechanistic, and trait-based explanation of broad-scale patterns. Sigma Xi Grants-In-Aid of Research (\$640)
- 2001 Consequences of excluding herbivores in tropical forests: on the potential for important indirect effects. Organization for Tropical Studies/Smithsonian Tropical Research Institute Comparative Research Grant (\$5,000)

Anthony J. Baumert

Senior Environmental Specialist

Grants Received (continued)

Applying resource competition to broad scale patterns in vegetation: Using traits to predict competitive outcomes, species distributions and local abundance. Pennsylvania Academy of Science Graduate Research Award (\$500)

The effect of seed predator exclusion on seedling abundance, distribution, and composition: an assessment of the Connell-Janzen hypothesis. Organization for Tropical Studies Research Award (\$500)

Presented Papers

Baumert, A.J. and W.P. Carson. What traits predict patterns of relative abundance? A test in old-field plant communities both with and without herbivores. Ecological Society of America Conference. Montreal, CA. August 2005.

Baumert, A.J. and W.P. Carson. What traits determine competitive outcomes? Predictions from old-field plant communities. University of Pittsburgh, Ecology and Evolution Seminar Series. Pittsburgh, PA. February 2005.

Carson, W.P., A.J. Baumert and D. Bunker. XXII International Congress of Entomology Symposia. Queensland, Australia. August 2004.

Baumert, A.J. and W.P. Carson. Can resource competition predict patterns of relative abundance? Pymatuning Laboratory of Ecology Brown Bag Seminar Series. Linesville, PA. June 2004

Carson, W.P., A.J. Baumert, D. Bunker and J.P. Cronin. Predicting when insect herbivores will have strong top-down effects on communities dominated by native or introduced species: moving beyond resource supply theory. Gordon Conference on plant-herbivore interactions. Ventura, CA. March 2004

Baumert, A.J., and W.P. Carson. R* theory: Simple tests and logical extensions. Pymatuning Laboratory of Ecology Brown Bag Seminar Series. Linesville, PA. June 2003.

Baumert, A.J., and W.P. Carson. Integrating Competition Theory, Keystone Predation Theory, and Higher Order Interactions: Toward a Unified Explanation of Plant Community Dominance and Relative Abundance. University of Pittsburgh, Ecology and Evolution Seminar Series. Pittsburgh, PA. October 2002.

Baumert, A.J., and W.P. Carson. Competition, predation and complexity: Can they all get along? Pymatuning Laboratory of Ecology Brown Bag Seminar Series. Linesville, PA. June 2002.

Baumert, A.J. The components of feeding behavior in the rotifer *Asplanchna herricki*: attack, capture, consumption, selectivity, and trophic morphology. National Conference for Undergraduate Research. Salisbury, MD. March 1998.

Presented Posters

Baumert, A.J. and W.P. Carson. Using plant traits to predict the outcome of interspecific competition: A test of competition theory and the strength of herbivory and indirect effects. Science 2004. Pittsburgh, PA. October 2004

Baumert, A.J. and W.P. Carson. Using plant traits to predict the outcome of interspecific competition: A test of competition theory and the strength of herbivory and indirect effects. Ecological Society of America Conference. Portland, OR. August 2004.

Publications

Banta, J.A, S.C. Stark, M.H.H. Stevens, T.H. Pendergast IV, A.J. Baumert and W.P. Carson. *In press*. Light reduction predicts widespread patterns of dominance between asters and goldenrods. *Plant Ecology*.

Anthony J. Baumert

Senior Environmental Specialist

Honors, Awards, Fellowships

Stanton C. Crawford Award for Excellence in Teaching, University of Pittsburgh (2001)

FAS Graduate Fellowship, University of Pittsburgh (2000)

National Science Foundation Research Experience for Undergraduates Fellowship (1999)

Distinction in the Biological Sciences, St. John's University (1998)

Affiliations

American Society of Naturalists

Botanical Society of America

Ecological Society of America

Organization for Tropical Studies

Pennsylvania Academy of Sciences

Mentoring

Garland Waleko – Independent research project. University of Pittsburgh (2005)

Brian Anderson – Brackenridge Fellow. University of Pittsburgh (2005)

Nick Galunic – Brackenridge Fellow. University of Pittsburgh (2004)

Andrew Zayachkivsky – Allegheny College Internship. Allegheny College (2003)

Service Activities

Peer review: Australian Journal of Botany, Plant Ecology

Organizer: Pymatuning Laboratory of Ecology Summer Journal Club (2003)

President: Biological Sciences Graduate Student Organization, U. of Pittsburgh (2002-2005)

Web master: Carson Lab, U. of Pittsburgh (2002-2005)

Ecology and Evolution Seminar Series Coordinator, U. of Pittsburgh (2000)

Additional Certifications and Coursework

U.S. Army Corps of Engineers Wetland Delineation Certification Program (2007)

Organization of Tropical Studies Field Course, Costa Rica (2001)

Henry B. Schumacher

Senior Environmental Specialist

Education

M. S. Ecology and Evolutionary Biology 2008, University of Pittsburgh
B. S. Ecology, Evolution, and Organismal Biology 2000, Tulane University

Affiliations

University of Pittsburgh, Biological Sciences Graduate Student Organization, Treasurer, 2004-2005
University of Pittsburgh, Ecology and Evolution Seminar Series, Organizer, 2005
Pittsburgh Regional Science and Engineering Fair, Pennsylvania, Junior Academy of Science, Volunteer Judge, 2005-2008
Nine Mile Run Watershed Association, Pittsburgh Pennsylvania, Volunteer Ecosteward, 2005-present
Greater Park Place Neighborhood Association, Board of Directors, Street Tree Coordinator, 2006-present

Summary

Mr. Schumacher specializes in ecology, with over 10 years of experience and training as an ecologist. He has worked on a wide variety of ecological projects in numerous natural community types. Mr. Schumacher's research interests include mechanisms of forest regeneration and succession, invasive species ecology, maintenance of tropical tree species diversity, and response of species and communities to global environmental change.

Mr. Schumacher's peer review service includes: Natural Areas Journal, Texas Journal of Science, Tropical Community Ecology (Carson, W.P. and S.A. Schnitzer, eds.)

Professional Experience

Professional Monitoring and Survey

- Mr. Schumacher has conducted experimental and observational ecological studies in Pennsylvania, West Virginia, Louisiana, Massachusetts, Panama, England, and Zimbabwe, gaining knowledge of the natural floras of those areas. These projects included investigations of old-growth forest diversity in Pennsylvania, the effects of fire, tree-fall gaps, and deer browsing on forest regeneration in West Virginia, the effects of elevated CO₂ and N deposition on invasive species success in herbaceous riparian plant communities, and the effects of mammalian seed predators on tropical forest diversity in Panama.
- Mr. Schumacher recently conducted threatened and endangered species surveys for the following species: Michaux's blue-eyed-grass (*Sisyrinchium mucronatum*), species survey. Approved by the New York State Department of Environmental Conservation, Natural Heritage Program. Orange County, New York, 2008
Eastern prairie fringed-orchid (*Platanthera leucophaea*), northern monkshood (*Aconitum noveboracense*), and the small whorled pogonia (*Isotria medeoloides*), habitat survey. Approved by the United States Fish and Wildlife Service. Ohio, 2008

Research

Teaching Positions

- Teaching Assistant: University of Pittsburgh, Pittsburgh, Pennsylvania. Courses: Ecology Laboratory, Biology Laboratory, Developmental Biology Laboratory, Biology Lecture, 2002-2008

Research Positions

- Field Ecologist: Patterns of old-growth forest diversity and species composition in Pennsylvania (Co-PI: Dr. Walter Carson, University of Pittsburgh, Pennsylvania), 2006-2008

Henry B. Schumacher

Senior Environmental Specialist I

- Field Ecologist: Potential impacts of I-99 road construction on natural and mitigation wetlands (PI: Dr. Walter Carson, University of Pittsburgh, Pennsylvania), 2005
- Research Supervisor and Field Ecologist: Effects of deer browsing, understory fire, canopy tree-fall gaps, and seed dispersal on forest regeneration (Co-PI: Dr. Walter Carson, University of Pittsburgh, Pennsylvania), 2003-2005
- Project Supervisor: Effects of mammalian seed predation on tropical tree diversity (PI: Dr. Walter Carson, University of Pittsburgh, Pennsylvania – Barro Colorado Island, Panama), 2002-2003
- Project Supervisor: Effects of global environmental change and plant invasions on riparian plant communities and ecosystem processes (PI's: Dr. Mark Bradford and Dr. Sebastian Catovsky, NERC Centre for Population Biology at Silwood Park, Imperial College, London, United Kingdom), 2001-2002
- Research Assistant: Mechanistic understanding of cues determining leaf flush phenology in seasonal sub-tropical forests (PI: Dr. Renee Richer, Harvard University, Massachusetts - Zimbabwe), 2001
- Research Assistant: Effects of seasonal flooding on 1) woody plant root production and survival, 2) tree and shrub regeneration dynamics, and 3) soil microbial activity in a bottomland-hardwood forest (PI's: Dr. Julie Whitbeck, Dr. Marcus Wasilevich, and Dr. Jay Gulledge, Tulane University and University of New Orleans, Louisiana), 1999-2000
- Research Assistant: The effects of positive and negative feedbacks on patchy forest regeneration dynamics (PI: Dr. Sebastian Catovsky, Harvard University, Massachusetts), 1999

Honors, Awards, Fellowships

PA Department of Conservation and Natural Resources Research Grant (\$38,000), 2005
Faculty of Arts and Sciences Graduate Fellowship, University of Pittsburgh, 2002
National Science Foundation Research Experience for Undergraduates Grant (\$6000), 1999
Paul Tulane College Research Grant for Undergraduates (\$500), 1999

Publications

- 2007 Bradford, M.A., H.B. Schumacher, S. Catovsky, T. Eggers, J.E. Newington, and G.M. Tordoff. 2007. Impacts of invasive plant species on riparian plant assemblages: interactions with elevated atmospheric CO₂ and N deposition. *Oecologia* 152: 792-803
- Schumacher, H.B. and W.P. Carson. Patterns of shifting tree species composition and diversity loss in eastern old-growth forest stands (in review, *Canadian Journal of Forest Research*)
- 2005 Stevens, M.H.H., Z.T. Long, S.A. Schnitzer, R. Collins, D.E. Bunker, J.P. Cronin, H.B. Schumacher, and W.P. Carson. 2005. Testing Ecological Theory: Ecology Lab 0390 Manual. University of Pittsburgh.

Seminars and Presentations

- 2008 Schumacher, H.B.. Patterns of shifting tree species composition and diversity loss in 19 old-growth forest stands in Pennsylvania. University of Pittsburgh, PA. Public defense.
- 2007 Schumacher, H.B. Autumn in Pennsylvania's old-growth forests: patterns of shifting species composition and diversity loss. University of Pittsburgh, PA. Ecology and Evolution Seminar Series.
- 2005 Schumacher, H.B., W.P. Carson, and M.B. Adams. Determining the impacts of deer browsing, understory fire, and canopy gaps on eastern forest dynamics. Ecological Society of America, Annual Conference. Montreal, Canada.
- Schumacher, H.B., W.P. Carson, R. Collins, and M.B. Adams. Understanding Ecological Process in Regenerating an Oak Forest. Indiana Department of Natural Resources. Managing Wildlife for Sustainable Forests / Managing Forests for Sustainable Wildlife Conference. Indianapolis, IN.
- Schumacher, H.B. and W.P. Carson. Assessing recruitment limitation at the community level: how much does seed supply really matter? University of Pittsburgh, PA. Ecology and Evolution Seminar Series.

Henry B. Schumacher

Senior Environmental Specialist I

- Schumacher, H.B., W.P. Carson, M.B. Adams, and R. Collins. (Poster) The Fire and Oak Hypothesis. MeadWestvaco Corp. Legislative Meeting. Elkins, WV.
- 2004 Schumacher, H.B. Biological invasions and global change. University of Pittsburgh, PA. Ecology and Evolution Seminar Series.
- Schumacher, H.B., R. Collins, W.P. Carson, and M.B. Adams. (Poster) The Fire and Oak Hypothesis. MeadWestvaco Corp. Conference. Sustainability and Biodiversity for the World's Forests: Getting the Science Right. Elkins, WV.
- 2003 Catovsky, S., H.B. Schumacher, and M.A. Bradford. Biological invasions and global change. Public Science Exhibition. Royal Society Summer Science Exhibition. London, United Kingdom.

Habitat Assessment and Species Survey for the Northern Monkshood (*Aconitum noveboracense*) and the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*)
Dominion East Ohio Gas, Franklin 20-Inch Pipeline Project, Wayne and Summit Counties, Ohio

APPENDIX C

PRESENCE/ABSENCE SURVEY FORMS

Eastern Prairie-Fringed Orchid Data Sheet

Project Name: Franklin 70" Pipeline Date: 7/10/08 Surveyor(s): ASB B
HBS
Project Number: 20060420 State: OH County: Wayne Town: Clinton
Site Name/Description: Site Z, Clinton Rd to County Line
Coordinates: N _____ W _____ Habitat Type: Graminoid-dominated roadside meadow
Site Size: _____ Light Availability: 100 % Open Sky
Aspect: — Slope: — Soil Moisture: Not saturated, no standing H₂O

Habitat Information:

Roadside meadow bordering forested area.

Species Present:

Toxicodendron radicans, Dactylis glomerata, Solidago
canadensis, Plantago major, P. lanceolata,

Focal Species:

Present/Absent: Absent Number of Individuals: NA Area Occupied: NA

Notes: _____

Eastern Prairie-Fringed Orchid Data Sheet

Project Name: Franklin 20" Pipeline Date: 7/9/08 Surveyor(s): ^{ASB}HBS
Project Number: C080420 State: OH County: Wayne Town: Clinton
Site Name/Description: Site Y, Fraze Rd roadside & ROW btwn Fraze & Home town Rds
Coordinates: N _____ W _____ Habitat Type: Graminoid-dominated roadside meadow
Site Size: _____ Light Availability: 100 % Open Sky
Aspect: - Slope: - Soil Moisture: Not saturated, no standing H₂O

Habitat Information:

Existing ROW bordering residential areas & pastureland.
Soils were not saturated, no standing water present.

Species Present:

Dactylis glomerata, Phleum pratense, Solidago canadensis,
Chrysanthemum leucanthemum, Rumex obtusifolius,
Plantago lanceolata

Focal Species:

Present/Absent: Absent Number of Individuals: NA Area Occupied: NA

Notes:

Eastern Prairie-Fringed Orchid Data Sheet

Project Name: Franklin 20" Pipeline Date: 7/9/08 Surveyor(s): ASB
HBS
Project Number: 0080420 State: OH County: Wayne Town: Clinton
Site Name/Description: Site X, Hametown Rd to Compressor Station
Coordinates: N _____ W _____ Habitat Type: Graminoid-dominated meadow
Site Size: _____ Light Availability: 100 % Open Sky
Aspect: — Slope: — Soil Moisture: saturated, 1" max standing H₂O

Habitat Information:

- Existing ROW, likely seeded with herbaceous ROW mix of orchard grass, timothy grass, red clover, etc.
- Area between Hametown Rd & stream is wetter than area west of that.

Species Present:

Dactylis glomerata, Phleum pratense, Phalaris arundinacea,
Solidago canadensis, Euthamia graminifolia, Achillea millefolium, Eupatorium
maculatum, Iris pseudacorus, Juncus effusus, Scirpus atrovirens,
Carex canadensis, C. vulpinoidea

Focal Species:

Present/Absent: Absent Number of Individuals: NA Area Occupied: NA

Notes:

APPENDIX 07-2E

BREEDING HABITAT ASSESSMENT REPORT FOR THE AMERICAN BITTERN,
TRUMPETER SWAN, AND SANDHILL CRANE

**Breeding Habitat Assessment for the
American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*),
and Sandhill Crane (*Grus canadensis*)
in Wayne County, Ohio**

**Dominion East Ohio Gas
Franklin 20-Inch Storage Pipeline Project
Wayne and Summit Counties, Ohio**

Project C070939.00/C080420.00
August 2008

Submitted By: Dominion East Ohio Gas
7015 Freedom Avenue, N.W.
North Canton, Ohio 44720

Prepared By: GAI Consultants, Inc.
Pittsburgh Office
385 East Waterfront Drive
Homestead, Pennsylvania 15120-5005



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Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio

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1.0 INTRODUCTION

Dominion East Ohio Gas (Dominion) proposes to install approximately 8.7 miles of 20-inch natural gas pipeline in Chippewa and Franklin Townships of Wayne and Summit Counties, Ohio. The proposed work (Project) will follow an existing maintained pipeline right-of-way (ROW) for most of the Project length and disturbance associated with construction will be limited to 30 feet on either side of the centerline of the pipeline (Figure 1). The Project will be accessed using existing maintained access roads and the existing ROW.

Dominion contacted the appropriate federal and state regulatory agencies concerning the potential presence of endangered and threatened species in the vicinity of the proposed Project. Coordination with the Ohio Department of Natural Resources (ODNR), Division of Natural Areas and Preserves, identified that the Project lies within the range of four state endangered avian species (Appendix A). This report considers three of those species, the American Bittern (*Botaurus lentiginosus*), Trumpeter Swan (*Olor buccinator*), and the Sandhill Crane (*Grus canadensis*), all three species are state endangered species (OAC 1501:31-23-01).

The ODNR requested that Dominion conduct habitat surveys to determine whether potential nesting habitat occurs within the Project area for the American Bittern, Trumpeter Swan, and Sandhill Crane in Wayne County, Ohio. Dominion retained GAI Consultants, Inc. (GAI) to conduct habitat assessments for these three species. With the approval from the ODNR Division of Wildlife (Appendix A), qualified GAI personnel (Mr. Matthew B. White, Appendix B) conducted the surveys on July 1 and 2, 2008. The methods and results of those surveys are described within this report.

2.0 HABITAT AND LIFE HISTORY

2.1 AMERICAN BITTERN

The American Bittern is a member of the heron family (Ardeidae) with a laterally compressed stature reaching approximately 24 to 33 inches in length that allows the species to readily move through thick wetland vegetation. American Bittern breed in northcentral North America and winter in the southern portions of the United States and into Central America. According to Breeding Bird Survey data the American Bittern has been declining at a range-wide rate of 1.9 percent per year since 1966 (Sauer et al., 2008). Range-wide declines of American Bittern has warranted the species to be listed as a species of management concern in the United States and a endangered species in the State of Ohio (OAC 1501:31-23-01). Primary factors that have been identified as affecting American Bittern include loss of habitat, human disturbance, and pesticides/contaminants (Gibbs and Melvin, 1992).

The American Bittern is one of the rarest breeding birds in Ohio (Peterjohn and Rice, 1991). Historically, American Bittern were common breeders throughout the western Lake Erie marshes, patchily distributed around Cleveland, and almost absent from areas south of Columbus (Peterjohn and Rice, 1991 and references therein). Throughout the mid to late 1900s American Bittern breeding populations in Ohio have been declining with the concurrent elimination of large extensive wetlands (Peterjohn and Rice, 1991). The rarity of this bird within Ohio today is likely accounted for by a lack of extensive wetland systems that provide suitable breeding habitat (Peterjohn and Rice, 1991). Current Breeding Bird Atlas (BBA) data for Ohio suggests that the largest congregation of American Bittern within the state occurs in Ottawa and Lucas Counties along the Lake Erie coastline, with other observations scattered throughout northern and northeastern Ohio (Ohio BBA, 2008). American Bittern have been recorded in Lucas, Ottawa, Sandusky, Summit, Portage, Trumbull, Mahoning, Vinton, and Seneca Counties (Ohio BBA, 2008). Despite conservation efforts to protect the wetlands along the Lake Erie coastline in Ottawa and Lucas Counties, the abundance of breeding American Bittern has declined (Peterjohn and Rice, 1991).

Within Ohio, American Bittern are known to breed in large emergent wetlands containing open water, bogs, large wet meadows, and shrubby swamps containing sufficient vegetation necessary for concealment (Peterjohn and Rice, 1991 and references therein). More recently however, American Bittern are generally constrained to undisturbed wetlands exceeding 20 acres in size with a dense component of cattails (*Typha latifolia*) and other native emergent hydrophytic wetland vegetation interspersed in an area with open water (Peterjohn and Rice, 1991). Wetlands less than 13 acres may best serve American Bittern as migratory stop-over habitat and forage locations while moving between larger more suitable wetlands (Gibbs and Melvin, 1992). Wetlands less than six acres generally do not support conditions suitable for American Bittern nesting (Gibbs and Melvin, 1992 and references therein). Conservation of this species is dependent upon the preservation of

wetland habitats of sufficient size that provide shallow (10 to 26 cm) open water, abundant tall hydrophytic vegetation, and aquatic-bed vegetation (Gibbs and Melvin, 1992 and references therein). Vegetation likely to dominate American Bittern habitat are sedges (*Carex* spp.) and cattail, as well as floating and submergent vegetation (Gibbs and Melvin, 1992).

The secretive nature of this species and its tendency to remain hidden in thick hydrophytic vegetation has led to a lack of information regarding the species nesting biology in Ohio and elsewhere in the species range (Peterjohn and Rice, 1991). As early as mid-March American Bitterns arrive on the breeding grounds as males begin to establish territories and pair bonding with females commences (Peterjohn and Rice, 1991). However, in Ohio nesting activities may not begin until May (ODNR, 2008a). Mate attraction by the male is distinguished by his loud booming call. American Bittern are more likely to be heard than to be seen. Pair bonding incorporates an elaborate display of aerial flights from both males and females.

Nests are often constructed on a tuft of dead vegetation (e.g., sticks, grasses, sedges, and cattail) in the shape of a platform surrounded by shallow open water or directly on the ground if placed in a wet meadow (Peterjohn and Rice, 1991; Ehrlich et al., 1988). Approximately one month after arriving on the breeding grounds and after territory establishment, pair bonding, and nest construction, eggs are laid beginning in late April, although eggs may be laid several weeks later in Ohio (Peterjohn and Rice, 1992 and references therein; ODNR, 2008a). Clutch sizes range between four and five eggs with an incubation length of about 29 days (Ehrlich et al., 1988). At two weeks of age young leave the nest but are still flightless (Ehrlich et al., 1988). American Bittern raise a single brood annually and are thought to be polygynous (Ehrlich et al., 1988; Gibbs and Melvin, 1992).

American Bittern forage independently in shallow open water using a stalk and strike method. American Bittern will wait motionless or move very slowly before striking at fish, frogs, small mammals, or invertebrates (Ehrlich et al., 1988).

2.2 TRUMPETER SWAN

The Trumpeter Swan is a member of the duck, geese, and swan family (Anatidae), commonly referred to as waterfowl. Trumpeter Swans are described as having a large bulky white body, about 60 inches in length, with black legs and a black beak. The Trumpeter Swan is the largest swan in the world and the largest species of waterfowl native to North America (USFWS, 2008). In and around lakes and marshes the Trumpeter Swan was historically abundant throughout the northern United States and Canada. Trumpeter Swan populations declined as a direct result of over hunting by both Native Americans and European settlers for food and trade (ODNR, 2008b). Similar to other birds with brilliant feathers (e.g., Peacock), Trumpeter Swan feathers were used for clothing and as writing instruments until the early to mid 1800s when the market peaked and Trumpeter Swan populations declined (ODNR, 2008b). Concurrent declines in available wetland and open water habitat during the 1800s through the conversion of land to agriculture also attributed

to declines in population abundance (ODNR, 2008b).

As a result of over hunting and loss of suitable habitat Trumpeter Swans were extirpated throughout much of their range by the 1900s and pushed to the brink of extinction in the 1930s (Ehrlich et al., 1988; ODNR, 2008b). Beginning with the Migratory Bird Treaty Act in 1918, which protects Trumpeter Swans and their habitat, population size has been increasing. Today, several states (Michigan, Minnesota, and Wisconsin) are reintroducing Trumpeter Swans into historically occupied areas. Estimates indicate the about 16,000 Trumpeter Swans are alive in the wild today with about 500 of them in the Midwest (USFWS, 2008).

Archeological evidence and scant observations indicate that Trumpeter Swan inhabited Ohio, particularly coastal marshes along the Lake Erie shoreline and other wetland open water habitats scattered throughout the state (ODNR, 2008b). As part of the North American Waterfowl Management Plan, the ODNR (along with other public and private organizations) began a Trumpeter Swan reintroduction program in May 1996. The goal of this program was to restore breeding Trumpeter Swans to the State of Ohio, and to increase biodiversity and awareness of Trumpeter Swan conservation. Trumpeter Swans one-year of age were released in groups of 10 to 15 individuals at 11 sites over a ten year period throughout Ohio (ODNR, 2008b). The first reintroduction location was along Lake Erie at the Magee Marsh Wildlife Area in Ottawa County (ODNR, 2008b). Trumpeter Swans were also reintroduced at the Mallard Club in Lucas County, Pickerel Creek in Sandusky County, Mosquito Creek and Grand River in Trumbull County, Killbuck Marsh in Wayne County, and Killdeer Plains in Wyandot County (ODNR, 2008b). Current results from the Ohio BBA indicate that a majority of the population in Ohio is concentrated along Lake Erie in Lucas, Ottawa, and Sandusky Counties, with remaining populations scattered throughout eastern and northeastern Ohio (Ohio BBA, 2008).

Trumpeter Swan habitat includes lakes, ponds, marshes, riverine wetlands, as well as prairies and open wooded areas (USFWS, 2008). Trumpeter Swans in Ohio prefer large marshes and lakes ranging in size from 40 to 150 acres (ODNR, 2008b). Shallow wetlands with one to three feet of open water with a mixture of emergent and submergent hydrophytic vegetation are also utilized for nest placement (ODNR, 2008b).

Prior to leaving the wintering grounds Trumpeter Swans form long-lasting monogamous pair bonds (Ehrlich et al., 1988). Trumpeter Swans have a mating ritual which includes mutual wing displays, head bobbing, and trumpeting (Ehrlich et al., 1988). Trumpeter Swans are one of the earliest arriving migratory species in North America to reach the breeding grounds. Pairs typically return to nest where the female was hatched or raised (ODNR, 2008b). Nests as large as six feet in diameter are often placed on muskrat or beaver dens or islands formed by cattails and sedges surrounded by water (Ehrlich et al., 1988; USFWS, 2008). Trumpeter Swan breeding season in Ohio begins in early May and ends by early August. Males gather nest material while females construct the nest, a process that can take up to two weeks (USFWS, 2008). A single brood is raised annually with an average of five eggs per clutch (Ehrlich et al., 2008). Young are cared for by the

parents through the next year when they return to the breeding grounds (ODNR, 2008b). Once young reach about one-year old they form sibling groups independent of their parents for the next several years and with which they remain until they seek out their own mates at around two or three years of age (ODNR, 2008; USFWS, 2008). Nests are likely to be reused in subsequent years (ODNR, 2008b).

The Trumpeter Swan forages in open water habitats where it remains on the water surface while utilizing its long neck to reach food that may occur at a depth up to four feet; this method is known as dabbling. Aquatic vegetation (e.g., arrowhead, sago pondweed, water milfoil, tubers of duck potato) and freshwater invertebrates (e.g., snails and worms) are its primary food sources (Ehrlich et al., 1988; ODNR, 2008b).

2.3 SANDHILL CRANE

The Sandhill Crane is a tall (34 to 38 inches) wading bird with long legs, a long neck, and a long narrow pointed beak. Sandhill Cranes breed throughout most of Canada, Alaska, eastern Siberia, and in portions of the United States from the Great Lakes west to the northern prairie states with outlying populations in Pennsylvania, Ohio, Oregon, and California (Eastman, 1999; USGS, 2006). Prior to European settlement, Sandhill Cranes probably had a much larger breeding range than they do today, but are now limited as habitat has been altered and large extensive wetlands have been drained (Eastman, 1999; USGS, 2006). Unregulated hunting also contributed to the species decline until the Migratory Bird Treaty Act of 1918 prohibited the hunting of this species and many other migratory birds. There are six Sandhill Crane subspecies that occur in North America. The Mississippi (*G. c. pulla*), Cuban (*G. c. nesoites*), and Florida (*G. c. pratensis*) are sedentary non-migratory populations with small population sizes and therefore most vulnerable (USGS, 2006; ODNR, 2008c). The other three populations include the Lesser (*G. c. canadensis*), Greater (*G. c. tabida*), and Canadian (*G. c. rowani*) populations that have much larger populations, and are migratory (USGS, 2006; ODNR, 2008c). The populations occurring within Ohio are of the Greater Sandhill Crane race (USGS, 2006; ODNR, 2008c).

Greater Sandhill Crane populations are rapidly increasing in the eastern portion of their range but may be declining in the western portion (USGS, 2006 and references therein). The greatest concentration of breeding Greater Sandhill Cranes is in the Great Lakes Region, specifically Minnesota, Wisconsin, and Michigan (ODNR, 2008c). Almost the entire Midwestern population utilizes the Jasper-Pulaski State Wildlife Area (JPSWA) in northwestern Indiana as a staging area during fall migration on their way to Florida and Georgia.

Sandhill Cranes are a native species to Ohio with historical populations occurring in the northwestern portion of the state, specifically Lucas and Fulton Counties, but those individuals disappeared in the 1880s (Peterjohn and Rice, 1991). A loss of wetland habitat was likely the primary factor for the species decline in Ohio (ODNR, 2008c). In 1926, the last nesting pair of Sandhill Cranes in Ohio was recorded at Huron Bog in Huron County (Peterjohn and Rice, 1991). Sandhill Cranes were not observed breeding in the state until a pair began nesting in Wayne County in 1987 (ODNR, 2008c). Subsequently, the

population in the Killbuck Valley primarily occupying the Killbuck Marsh Wildlife Area (KMWA) in Wayne and Holmes Counties has increased (ODNR, 2008c). Today, Sandhill Cranes occur in a few areas of the state but populations are concentrated in the northeastern portion, particularly the Killbuck Valley (Ohio BBA, 2008). The KMWA contains the largest concentration of breeding Sandhill Cranes in Ohio (Downs et al., 2008, and references therein). The total Ohio Sandhill Crane breeding population is estimated to be about a dozen pairs scattered throughout northern Ohio (Downs et al., 2008 and references therein). The population of Sandhill Cranes that has been breeding in Ohio since the late 1980s is likely part of the expanding southeastern Michigan population (Peterjohn and Rice, 1991 and references therein).

Sandhill Cranes are dependent upon wetland habitat, particularly open freshwater wetlands and shallow marshes (USGS, 2006; ODNR, 2008c). Breeding habitat is described as a large isolated tract of a shallow marsh, a bog, or a wet meadow; these habitat types are necessary for nesting (Ehrlich et al., 1988; Peterjohn and Rice, 1991; ODNR, 2008c). Sandhill Cranes prefer to locate their nest in or near a seasonally flooded emergent wetland and typically avoid forested uplands (Baker et al., 1995). The smallest emergent marsh in Ohio where breeding Sandhill Cranes were recently observed breeding was 4.45 acres (Downs et al., 2008 and references therein). Nesting activity is often isolated from human activity (Eastman, 1999). The subspecies that occupies Ohio, the Greater Sandhill Crane, are found in bogs, fens, cattail marshes, and other similar wetland types or low lying wet fields and meadows (USGS, 2006). Sandhill Cranes in Ohio typically nest in wetlands that are in close proximity (less than 100 meters) from upland areas (hay and grass fields) used for foraging and brooding (Downs et al., 2008 and references therein). Migratory habitat consists of large wetland systems adjacent to agricultural areas (USGS, 2006). Outside of the breeding season Sandhill Cranes are a gregarious species that form large roosting congregations at night but remain in their respective family flocks during the day (ODNR, 2008c). JPSWA in northwestern Indiana is the primary migratory staging area for Sandhill Cranes that breed in the Great Lakes region. Staging area habitat characteristics for Greater Sandhill Cranes at the JPSWA are less than 20 centimeters of water and lack of human disturbance; these characteristics are also applicable to other migratory stop-over habitat for eastern Sandhill Crane populations (Lovvorn and Kirkpatrick, 1981). Greater Sandhill Cranes at JPSWA preferred areas with shallow water or sparsely vegetated mudflats (Lovvorn and Kirkpatrick, 1981) similar to what has been described for Sandhill Cranes in Ohio; shallow standing water or moist bottomlands for roosting (ODNR, 2008c).

Sandhill Cranes form life-long monogamous pair bonds. Sandhill Cranes have an elaborate courtship that involves wing flutters, jumping, and behaviors. Peak breeding activity occurs in April and May when the nest is constructed and eggs are laid (ODNR, 2008c). Clutch sizes average two eggs with typically only one young surviving (Eastman, 1999). After young hatch they will remain with their parents for the remainder of the breeding season and throughout the winter migration, only to be abandoned before the next breeding season (ODNR, 2008c). Young Sandhill Cranes will not find a mate until they reach three years of age but will then wait until five years of age before raising a brood

of its own (ODNR, 2008c).

Sandhill Cranes establish and defend territories ranging in size from 132 to 210 acres (Peterjohn and Rice, 1991). Because territories cover such an extensive area they contain a variety of habitat types including wetlands and uplands with nesting occurring within the wetlands and foraging occurring in the upland pastures, wet meadows, cultivated fields, as well as wetland areas where their nest is located (Peterjohn and Rice, 1991). Although a social species, Sandhill Cranes actively defend their territory and nest during the breeding season.

Nests are constructed by both sexes in undisturbed wetlands often on a platform surrounded by water reaching depths up to three feet and containing emergent hydrophytic vegetation (Peterjohn and Rice, 1991; ODNR, 2008c). Nests are large and can reach up to five feet in width. Nests are constructed of marsh plants, tubers, plant roots, or the dominant wetland vegetation (Ehrlich et al., 1988; ODNR, 2008c).

Sandhill Cranes forage in wet meadows or bogs and may travel several miles in search of plant roots, tubers, seeds, berries, grain, mice, small birds, snakes, lizards, frogs, and crayfish (Ehrlich et al., 1988).

3.0 SURVEY METHODOLOGY

The identification of potential nesting habitat for the American Bittern, Trumpeter Swan, and Sandhill Crane within the Project area in Wayne County, Ohio was conducted on July 1 and 2, 2008. Prior to field surveys aerial mapping was reviewed for potential habitat. An on-site review of the Project area was necessary to confirm aerial photography and to confirm the presence/absence of breeding habitat within the Project area for the American Bittern, Trumpeter Swan, and Sandhill Crane.

Potential American Bittern breeding habitat was reviewed and based upon the following criteria:

- large (greater than six acres) wetlands containing open water and dense hydrophytic vegetation dominated by cattail; and
- presence of submergent wetland vegetation.

Potential Trumpeter Swan breeding habitat was reviewed and based upon the following criteria:

- large (greater than 40 acres) lakes, ponds, and marshes containing both open water as well as emergent vegetation and an aquatic bed.

Potential Sandhill Crane breeding habitat was reviewed and based upon the following criteria:

- large (greater than 4.45 acres) open freshwater wetlands, or a wet meadow away from a forested upland;
- wetlands dominated by emergent vegetation with water depths not exceeding three feet; and
- grassland/agricultural land adjacent (less than 100 meters) to large (4.45 acres) wetland systems.

4.0 RESULTS

The majority of the habitat traversed by the Project area in Wayne County consists of open herbaceous fields and roadsides, agricultural crop land, residential development and lawns, small/medium sized woodlots, small emergent wetlands, and headwater streams across a gently sloping landscape (Figures 1 and 2).

The small/medium sized woodlots and narrow strips of trees surrounding or crossed by the Project included overstory tree species such as American beech (*Fagus grandifolia*), Northern red oak (*Quercus rubra*), hickory (*Carya* spp.), sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), and sassafras (*Sassafras albidum*).

The mid-story/sapling layer within forests adjacent to the Project was dominated by these same species but also included ironwood (*Carpinus caroliniana*) and witch hazel (*Hammamelis virginiana*). Understory species included spicebush (*Lindera benzoin*), honeysuckle (*Lonicera* spp.), grape (*Vitis* spp.), poison ivy (*Toxicodendron radicans*), garlic mustard (*Alliaria petiolata*), red clover (*Trifolium pratense*), Virginia creeper (*Parthenocissus quinquefolia*), mayapple (*Podophyllum peltatum*), Trillium spp., and hay-scented fern (*Dennstaedia punctilobula*).

Additional species that occupied the existing natural gas pipeline ROW, and grass/sedge meadows included Timothy grass (*Phleum pratense*), reed canary grass (*Phalaris arundinacea*), goldenrod (*Solidago* spp.), common yarrow (*Achillea millefolium*), spotted joe-pye weed (*Eupatorium maculatum*), multiflora rose (*Rosa multiflora*), plantain (*Plantago* spp.), oxeye daisy (*Chrysanthemum leucanthemum*), autumn olive (*Elaeagnus umbellata*), blackberry (*Rubus* spp.), teasel (*Dipsacus fullonum*), dogbane (*Apocynum* spp.), boxelder (*Acer negundo*), black willow (*Salix nigra*), rice cut grass (*Leersia oryzoides*), deer tongue (*Dichanthellium clandestinum*), pokeweed (*Phytolacca americana*), and orchard grass (*Dactylis glomerata*).

The Project area was previously reviewed for wetlands through an on-site delineation. The results of those surveys indicate that four wetlands are within the Project area in Wayne County. Three of the wetlands are palustrine emergent wetlands and the fourth is a vernal pool. The size of the wetlands within the Project work area ranged from 0.02-acre to 0.94-acre. Although the total size of these wetlands outside the Project area is unknown, they are not likely to be significantly larger because none of them have been previously identified as NWI or OWI Wetlands. Ohio Wetland Inventory (OWI) mapping indicates that one OWI wetland is crossed by the Project in Wayne County. However, field review of that area did not indicate a wetland exists, at least within the Project area. Vegetation associated with wetlands along the Project included reed canary grass, creeping jenny (*Lysimachia nummularia*), skunk cabbage (*Symplocarpus foetida*), soft rush (*Juncus effusus*), *Carex lurida*, sensitive fern (*Onoclea sensibilis*), and path rush (*Juncus tenuis*). Ohio Rapid Assessment Method (ORAM) scores for all four wetlands (v 5.0) ranged from

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8.5 to 34, and are therefore classified as either Category 1 or Category 1 or 2 gray zone wetlands.

The following descriptions highlight habitats and landscapes crossed by the Project in Wayne County Ohio. Moving from the western terminus of the Project at the Chippewa Station to the eastern edge of the Project at the intersection of Taylor Road (T.R. 11) and Clinton Road (C.R. 260), habitat descriptions are as follows:

- From Chippewa Station to Hametown Road the Project route crosses open grassy fields (Photograph 1), bisects narrow strips of trees separating adjacent fields (Photograph 2), an emergent wetland, active corn fields (Photograph 3), herbaceous/sedge meadows (Photograph 4), and a small headwater stream.
- After crossing Hametown Road the proposed Project route heads upslope through a second growth woodlot (Photograph 5) before paralleling a second woodlot to the south and an open herbaceous field to the north before reaching Frazee Drive (Photograph 6).
- The proposed Project route then heads north along Frazee Road and a herbaceous field (Photograph 7) before going east through a residential development .
- From the intersection of Frazee Road and William Drive the proposed pipeline route travels through a residential development in an eastern direction before crossing State Route (S.R.) 21 (Photograph 8).
- From the intersection of S.R. 21 and Clinton Road the proposed pipeline route heads south between S.R. 21 along an active corn field (Photograph 9) before heading east along a narrow strip of trees and shrubs that borders the corn field (Photograph 10).
- The remaining section of proposed pipeline in Wayne County parallels Clinton Road in a southeastern direction in an herbaceous roadside bordered by forest before the pipeline enters Summit County (Photograph 11).

Commonly observed avian species along the Project route in Wayne County included the following:

- White-breasted Nuthatch (*Sitta carolinensis*);
- Black-capped Chickadee (*Poecile atricapilla*);
- Indigo Bunting (*Passerina cyanea*);
- Red-eyed Vireo (*Vireo olivaceus*);

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- Northern Cardinal (*Cardinalis cardinalis*);
- American Robin (*Turdus migratorius*);
- American Goldfinch (*Carduelis tristis*);
- Mourning Dove (*Zenaida macroura*);
- Song Sparrow (*Melospiza melodia*);
- Chipping Sparrow (*Spizella passerina*);
- Yellow Warbler (*Dendroica peterchia*);
- Red-winged Blackbird (*Agelaius phoeniceus*);
- Carolina Wren (*Thryothorus ludovicianus*);
- Common Yellowthroat (*Geothlypis trichas*);
- American Crow (*Corvus brachyrhynchos*);
- Blue Jay (*Cyanocitta cristata*);
- European Starling (*Sturnus vulgaris*);
- Turkey Vulture (*Cathartes aura*); and
- Killdeer (*Charadrius vociferus*).

4.1 AMERICAN BITTERN

Based on a review of aerial photography and an on-site visit, American Bittern nesting habitat does not exist in the Project area. Although four wetlands are present within the Project for Wayne County these wetlands are 0.02-acre to 0.94-acre in size within the Project area and do not contain open water or cattail. Therefore, the wetlands that are present within the Project area are not characteristic of American Bittern habitat. American Bittern have not been observed during any BBA event for the atlas block (51A5CE) for which the Project is located (Ohio BBA, 2008). The BBA represents one of the most complete compilations of information describing avian communities and their locations within Ohio available to date.

4.2 TRUMPETER SWAN

Based on a review of aerial photography and an on-site visit, Trumpeter Swan nesting habitat does not exist in the Project area. Although four wetlands are present within the Project work area in Wayne County these wetlands are 0.02-acre to 0.94-acre in size within the Project area. Wetlands identified within the Project area not greater than 40 acres in size nor do they contain the area and depth of water required by the Trumpeter Swan. Trumpeter Swan have not been observed during any BBA event for the atlas block (51A5CE) for which the Project is located (Ohio BBA, 2008). The BBA represents one of the most complete compilations of information describing avian communities and their locations within Ohio available to date.

4.3 SANDHILL CRANE

Based on a review of aerial photography and an on-site visit, Sandhill Crane nesting habitat does not exist in the Project area. Although four wetlands are present within the Project work area in Wayne County, these wetlands are 0.02-acre to 0.94-acre in size within the Project area. These wetlands do not contain the necessary features associated with Sandhill Crane breeding habitat. Areas crossed by the Project also lack characteristics of migratory habitat (large wetland systems with areas of shallow open water or mudflats adjacent to agricultural fields). Additionally, open fields and agricultural areas crossed by the Project are in close proximity to a natural gas compressor station, residential developments, roads, and overhead electric transmission lines and therefore in close proximity to human disturbance. The proposed Project parallels an existing disturbed (maintained) ROW and Sandhill Cranes prefer undisturbed habitat. Sandhill Cranes have not been observed during any BBA event for the atlas block (51A5CE) for which the Project is located (Ohio BBA, 2008). The BBA represents one of the most complete compilations of information describing avian communities and their locations within Ohio available to date.

5.0 CONCLUSIONS

Habitat assessments for the American Bittern, Trumpeter Swan, and Sandhill Crane were conducted on July 1 and 2, 2008. The results of this habitat assessment did not identify any locations within the Project area in Wayne County, Ohio as potential habitat for the either of these species. Based on the results of this investigation, no impacts to American Bittern, Trumpeter Swan, and Sandhill Crane are anticipated as a result of the proposed Project.

The scope of this survey is limited to the areas affected by the proposed Project as described herein. Review and concurrence on the results of this habitat assessment and survey are required from the ODNR Division of Wildlife.

Respectfully submitted,
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MBW:SEG/hmm
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Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*), Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio

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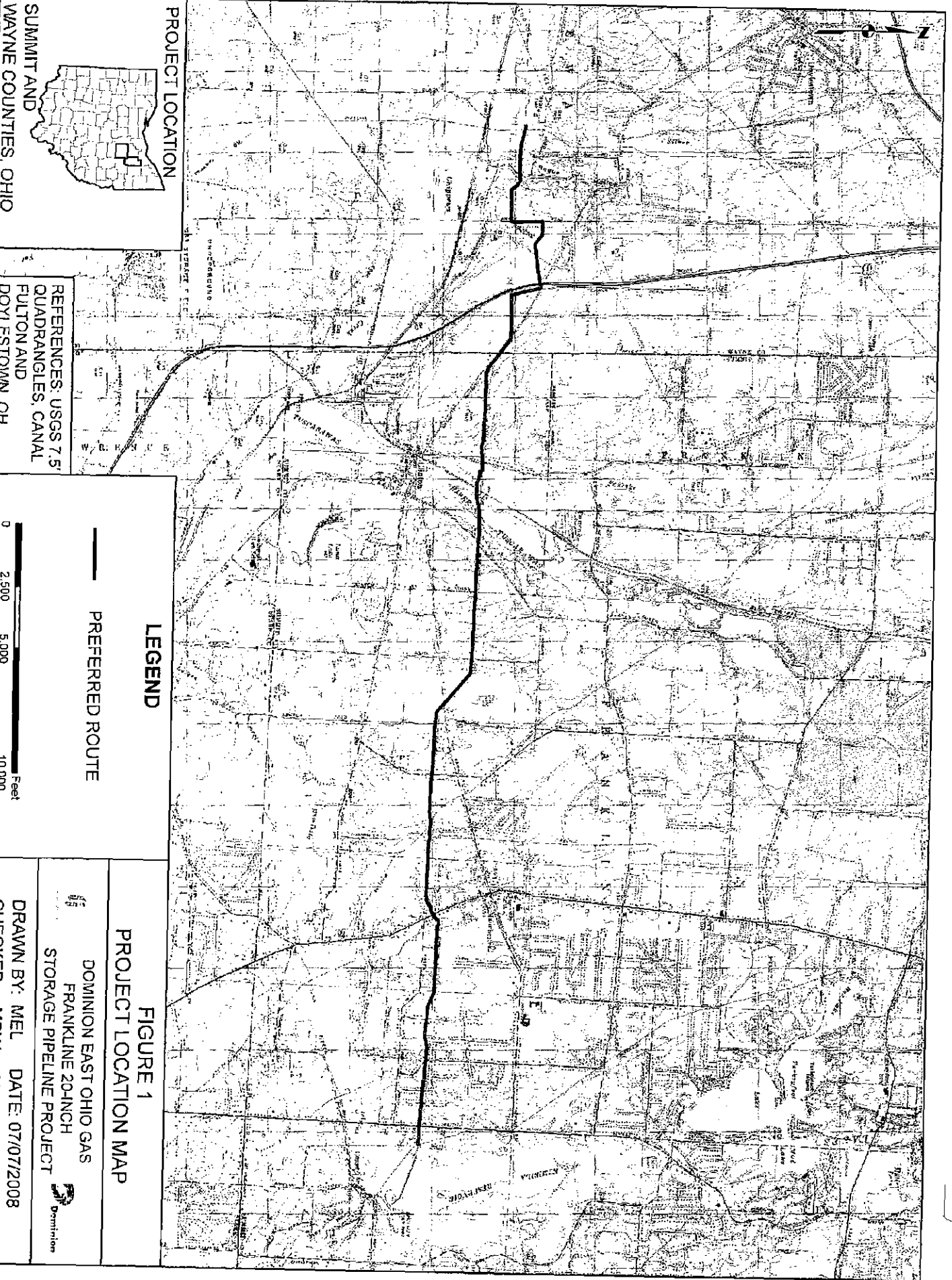
Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio

FIGURES

2

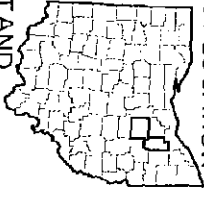
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2



PROJECT LOCATION

SUMMIT AND
WAYNE COUNTIES, OHIO



REFERENCES: USGS 7.5'
FULTON AND
DOYLESTOWN, OH.

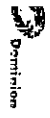
0 2,500 5,000 10,000 Feet

— PREFERRED ROUTE

LEGEND

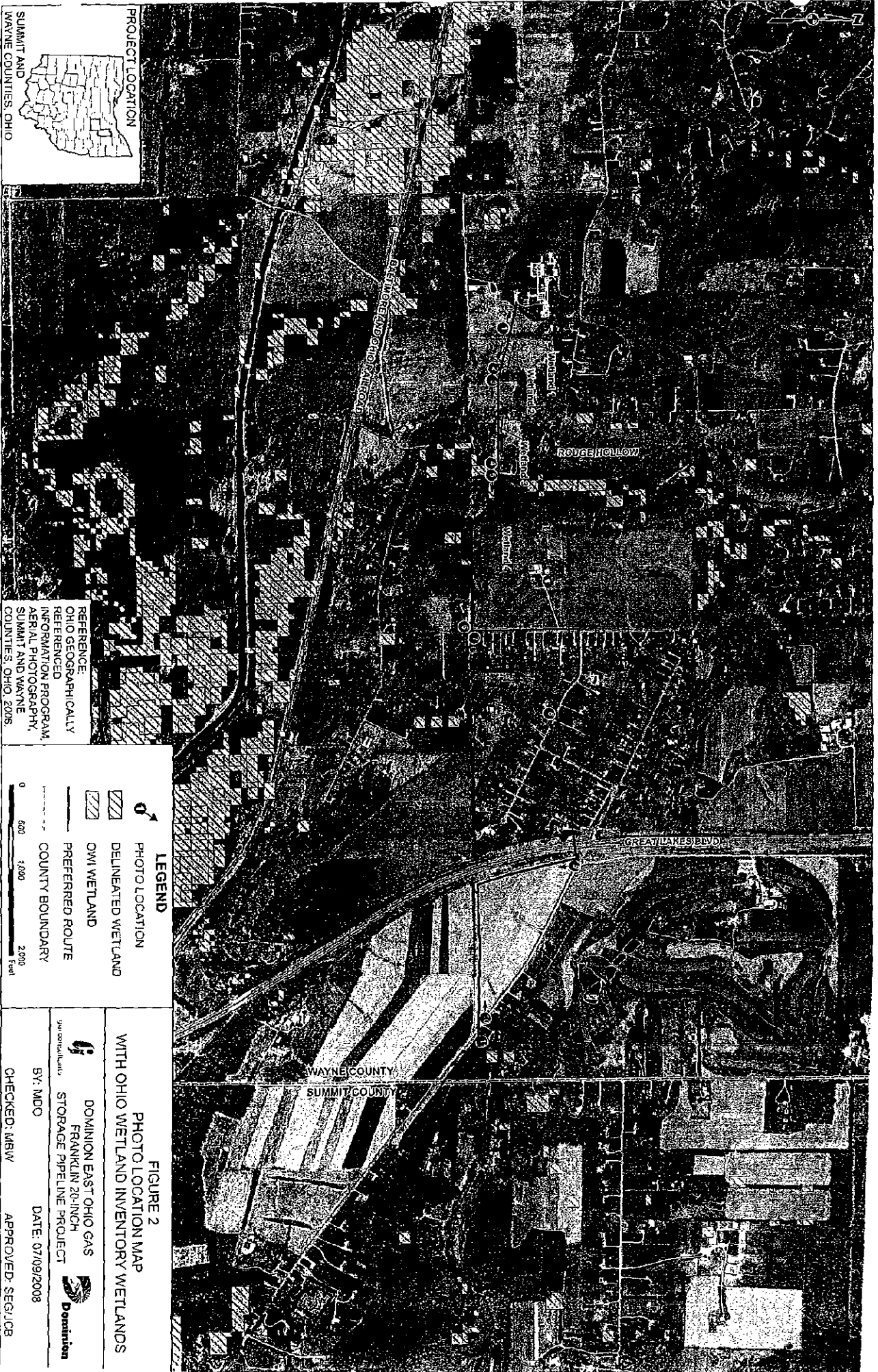
**FIGURE 1
PROJECT LOCATION MAP**

DOMINION EAST OHIO GAS
FRANKLINE 20-INCH
STORAGE PIPELINE PROJECT



DRAWN BY: MEL DATE: 07/07/2008
CHECKED: MBW APPROVED: SEG/JCB

P:\P112007\CO70939_00\GIS\Project_Files\PROJECT_LOCATION_TOPO_ASIZE_070708.mxd



PROJECT LOCATION

SUMMIT AND WAYNE COUNTIES, OHIO

REFERENCE:
OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM, AERIAL PHOTOGRAPHY, SUMMIT AND WAYNE COUNTIES, OHIO, 2005.

LEGEND

- PHOTO LOCATION
- DELINEATED WETLAND
- OWI WETLAND
- PREFERRED ROUTE
- COUNTY BOUNDARY

0 500 1,000 2,000 Feet

FIGURE 2
PHOTO LOCATION MAP
WITH OHIO WETLAND INVENTORY WETLANDS

DOMINION ENERGY OHIO
FRANKLIN 20-INCH STORAGE PIPELINE PROJECT

BY: MDC DATE: 07/09/2008

CHECKED: MBW APPROVED: SEQ/JCB

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Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio

PHOTOGRAPHS

Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio



Photograph 1. Open grassy field, viewing northwest.



Photograph 2. Open herbaceous field with emergent wetland, viewing west.

Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio



Photograph 3. Active corn field, viewing east.



Photograph 4. Herbaceous meadow, viewing west.

Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio



Photograph 5. Proposed pipeline route through a forested woodlot and existing pipeline ROW, viewing east.



Photograph 6. Proposed pipeline route bordered by a forested woodlot and open herbaceous field, viewing west.

Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio



Photograph 7. Proposed pipeline route along Frazee Road, viewing north.

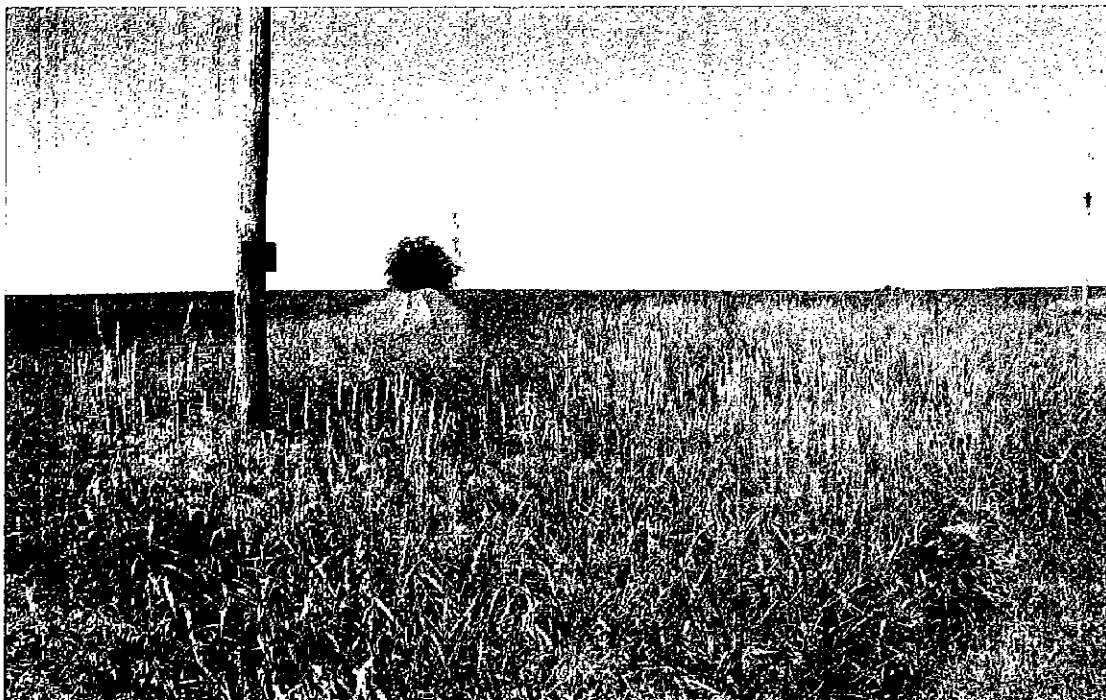


Photograph 8. Proposed pipeline route through residential
developments and lawns north of William Drive, viewing northeast.

Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio



Photograph 9. Active corn field east of S.R. 21, viewing south.



Photograph 10. Active corn field between Clinton Road and S.R. 21, viewing west.

Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio



Photograph 11. Herbaceous roadside bordered by forest northeast of Clinton Road, viewing southeast.

Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio

APPENDIX A
AGENCY CORRESPONDENCE



March 28, 2008

Project C070939.00

Mr. Brian Mitch
Environmental Review Manager
Ohio Department of Natural Resources
Division of Real Estate and Land Management
Ohio Natural Heritage Program
2045 Morse Road, Building C-4
Columbus, Ohio 43229

Dominion East Ohio
Proposed Franklin 20-Inch Storage Pipeline Project
Threatened and Endangered Species
Wayne and Summit Counties, Ohio

Dear Mr. Mitch:

GAI Consultants, Inc. (GAI), on behalf of Dominion East Ohio (DEO), is preparing an application to the Ohio Power Siting Board as well as applications for appropriate environmental permits and approvals for the proposed Franklin 20-Inch Storage Pipeline Project (Project). The proposed Project involves the installation of 8.7 miles of 20-inch natural gas pipeline in Chippewa and Franklin Townships of Wayne and Summit Counties, Ohio, respectively. The proposed pipeline, shown on the attached Project Location Map (Attachment A), would serve to enhance DEO's gas storage system. The proposed pipeline follows an existing pipeline right-of-way throughout nearly its entire length, minimizing disturbance to the surrounding area. Disturbance will be limited to a maximum 100-foot radius around the proposed centerline shown on the attached topographic map. Existing access roads and storage areas will be used and will be located within the one-half-mile study area being requested.

GAI is requesting a Natural Heritage Database review of the Project area and your comments concerning the potential for impact, if any, to federally- and state-listed threatened and endangered species, their critical habitat, or other sensitive resources within one-half-mile of the Project area shown on the attached map. Also attached for your use is the completed Division of Natural Areas and Preserves Data Request Form (Attachment B).

DEO and GAI appreciate your timely review of this request. If there are questions or concerns, please feel free to contact either Ms. Jennifer C. Broush or me at 412-476-2000.

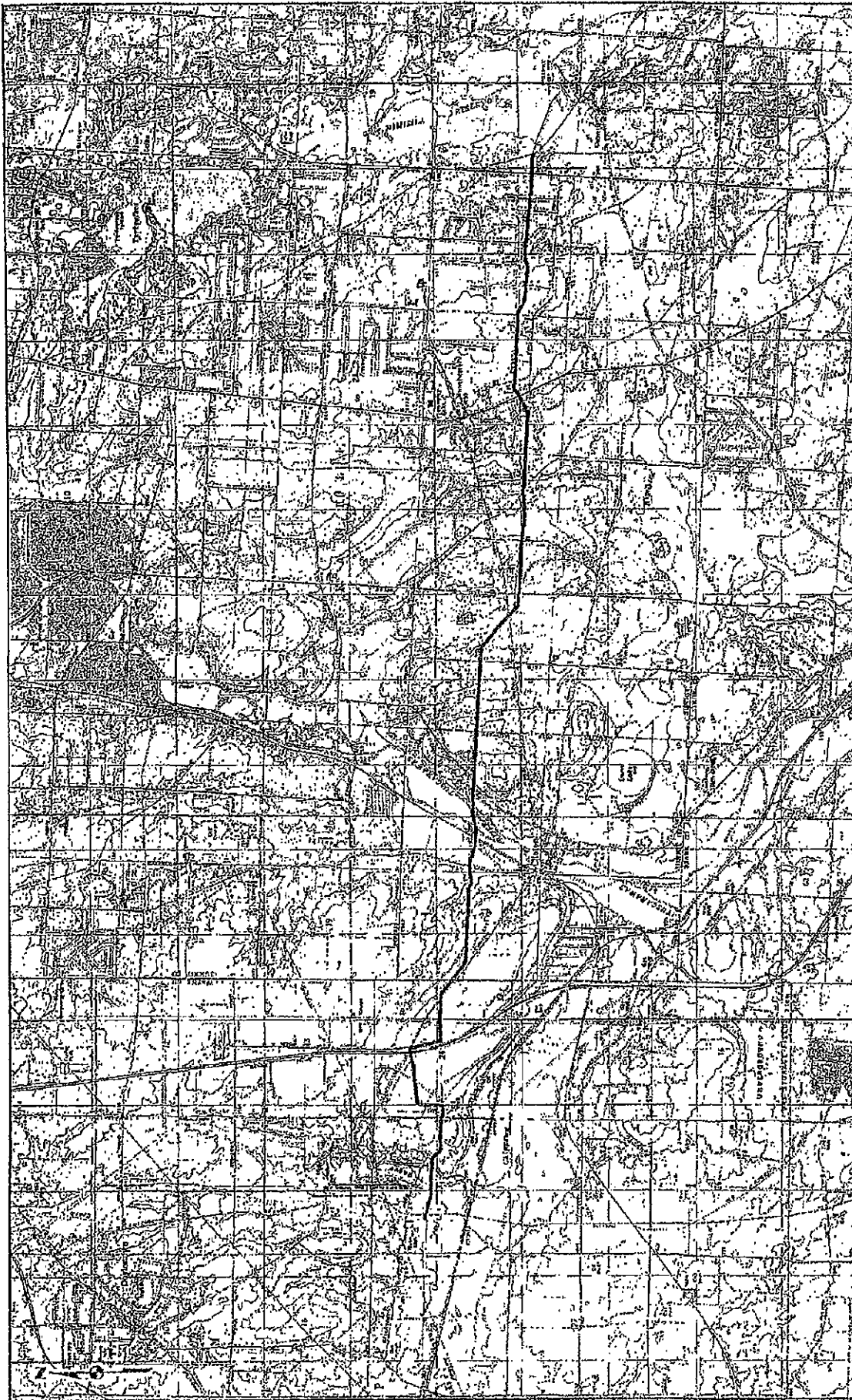
Respectfully submitted,
GAI Consultants, Inc.

Stephen E. Gould, Q.E.P., G.I.S.P.
Project Manager

SEG:JCB:MLB/gmg
0793900-pdnr-ltr-mib/scg D1

Attachments

cc: Mr. Scott A. Hallam, Dominion East Ohio
Ms. Sheri L. Franz, Dominion Resources Services, Inc.



PROJECT LOCATION MAP
FRANKLIN 20" STORAGE PIPELINE PROJECT



DOMINION EAST OHIO

DATE: 03/20/2008
 APPROVED:

DRAWN BY: MDO
 CHECKED: JCB

LEGEND

— PROPOSED CENTERLINE

0 0.5 1 2 Miles

PROJECT LOCATION

SUMMIT
AND WAYNE COUNTIES, OHIO

REFERENCE: USGS 7.5'
 QUADRANGLES,
 DOYLESTOWN AND
 CANAL FULTON, OHIO.

Mishelle L. Beercheck

From: Mitch, Brian [Brian.Mitch@dnr.state.oh.us]
Sent: Monday, May 12, 2008 10:06 AM
To: Mishelle L. Beercheck
Subject: 08-0099; Franklin 20" Storage Pipeline Project
Attachments: oledata.mso; image001.gif; 08-0099map1.jpg; 08-0099map2.jpg



ODNR COMMENTS TO Ms. Jennifer C. Broush, GAI Consultants, 385 East Waterfront Drive, Homestead, Pennsylvania, 15120.

Location: The site is located in Sections 23 and 24, Chippewa Township, Wayne County and Sections 25, 26, 27, 28, 29, and 30, Franklin Township, Summit County, Doylestown and Canal Fulton Quadrangles.

Project: The proposed project involves the construction of 8.7 miles of 20" natural gas pipeline. The proposed pipeline follows an existing pipeline right-of-way throughout nearly its entire length, minimizing disturbance to the surrounding area. Disturbance will be limited to a maximum 100" radius around the proposed centerline. Existing access roads and storage areas will be used and will be located within the one-half-mile study area being requested.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Rare and Endangered Species: The ODNR, Division of Natural Areas and Preserves, Natural Heritage Database contains records of rare species near the proposed project. *Rallus limicola*, Virginia Rail, has an Ohio Status of Special Concern and was last observed at this location in June of 1986. *Porzana carolina*, Sora, has an Ohio Status of Special Concern and was last observed at this location in June of 1986. The map included with this message displays the locations of records.

There are no unique natural features within the proposed project and there are no state nature preserves, wildlife areas, or scenic rivers in the vicinity of the site. However, the site is near the Portage Lakes State Park. The red line on the map represents the approximate boundary of the park.

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.

Fish and Wildlife: The ODNR, Division of Wildlife (DOW) has the following comments.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: Shagbark hickory (*Carya ovata*), Shellbark hickory (*Carya laciniosa*), Bitternut hickory (*Carya cordiformis*), Black ash (*Fraxinus nigra*), Green ash (*Fraxinus pennsylvanica*), White ash (*Fraxinus americana*), Shingle oak (*Quercus imbricaria*), Northern red oak (*Quercus rubra*), Slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), Eastern cottonwood (*Populus deltoides*), Silver maple (*Acer saccharinum*), Sassafras (*Sassafras albidum*), Post oak (*Quercus stellata*), and White oak (*Quercus alba*). Indiana bat habitat consists of suitable trees that include dead and dying trees of the species listed above with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees of the species listed above with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. If suitable trees occur

within the project area, these trees must be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between September 30 and April 1. If suitable trees must be cut during the summer months of April 2 to September 29, a net survey must be conducted in May or June prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species.

The project is within the range of the bald eagle (*Haliaeetus leucocephalus*), a state and federally threatened species. The location of bald eagle activity frequently changes. Therefore, closer to the actual date of construction, the applicant must obtain an updated status of bald eagle activity in the area. To obtain any changes in status, contact Mark Shieldcastle at the Ohio Department of Natural Resources, Division of Wildlife, Crane Creek Wildlife Research Station, for current information on the presence of bald eagles in the area. He can be reached at (419) 898-0960. If a nest is located within ¼ mile of the project site, coordination with the DOW is required.

The project is within the range of the bobcat (*Lynx rufus*), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The portion of the project located in Wayne County is within a county where current records exist for the Eastern massasauga (*Sistrurus catenatus*), a state endangered and a Federal candidate snake species. Due to the location of this project, the DOW believes the project is not likely to impact this species. However, if an Eastern massasauga is encountered during construction of the project, work should immediately be stopped, and the DOW should be contacted.

The portion of the project located in Wayne County is also within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if wetland habitat is located near the project area, construction must be avoided during the species' nesting period of May 1 to July 31. If no wetland habitat is in the vicinity of the project area, the project is not likely to impact this species.

The project area in Wayne County is also within the range of the trumpeter swan (*Cygnus buccinator*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if wetland habitat is located near the project area, construction must be avoided during the species' nesting period of May 1 to August 1. If no wetland habitat is in the vicinity of the project area, the project is not likely to impact this species.

Additionally, the portion of the project located in Wayne County is within the range of the sandhill crane (*Grus canadensis*), a state endangered species. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if grassland, prairie, or wetland habitat is in the vicinity of the project, construction must not occur during the species' nesting period of April 1 to September 1. If this habitat is not present near the project area, the project is not likely to have an impact on this species.

The portion of the project located in Wayne County is within the range of the Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered amphibian. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from that area. Therefore, if the project proposes to impact riparian corridor habitat, a survey conducted by an approved herpetologist is required to determine the presence or absence of the species.

The portion of the project located in Summit County is within the range of the elfin skimmer (*Nannothemis bella*), a state endangered dragonfly, the racket-tailed emerald (*Dorocordulia libera*), a state endangered dragonfly, and the chalk-fronted corporal (*Ladona julia*), a state endangered dragonfly. Due to the mobility of these species, the project is not likely to impact these species.

The portion of the project located in Summit County is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The portion of the project located in Summit County is also within the range of the golden-winged warbler (*Vermivora chrysoptera*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if shrub-dominated habitat such as successional fields, woodland edges, and clearings are present within the project area, construction must not occur during the species' nesting period of May 15 to July 15. If this successional habitat is not present, the project is not likely to impact this species.

The Natural Heritage Database contains records near the proposed project for the Virginia rail (*Rallus limicola*), a state bird species of special concern, and the sora (*Porzana carolina*) a state bird species of special concern. Due to the status of these species, the date of the records, and the type of work proposed, the DOW believes the project is not likely to impact this species.

Parks and Recreation: The ODNR, Division of Parks and Recreation has the following comments.

By the information provided it appears the pipeline *may* cross the boundary line for Portage Lakes State Park. The local contact is Regional Park Manager Bruce Carpenter; he can be contacted at 330-644-2220 for local questions or concerns.

If this project does cross state park land and/or water, a real estate agreement will need to be created. The agreement process should be started well in advance of the project start date. The agreement must be fully executed prior to work on the Division's land or waters. The Division of Parks and Recreation's Real Estate Manager is Mr. Kim Caris; Mr. Caris can be reached at 614-265-6514.

The Division expects that all appropriate construction and installation BMP's are implemented.

ODNR appreciates the opportunity to provide these comments. Please contact Brian Mitch at (614) 265-6378 if you have questions about these comments or need additional information.

Brian Mitch, Environmental Review Manager
Ohio Department of Natural Resources
Environmental Services Section
2045 Morse Road, Building C-4
Columbus, Ohio 43229-6693
Office: (614) 265-6378
FAX: (614) 267-4764
brian.mitch@dnr.state.oh.us

Mishelle L. Beercheck

From: Jenkins, Becky [Becky.Jenkins@dnr.state.oh.us]
Sent: Thursday, June 12, 2008 10:12 AM
To: Mishelle L. Beercheck
Subject: RE: 08-0099; Franklin 20" Storage Pipeline Project - Habitat Assessment
Attachments: image001.gif

Mishelle:

We do not object to the bird habitat assessments being done by the individuals you have selected. We do not have the same type of required list for bird species assessments as we do for reptiles and amphibians. Thanks for checking.

Becky Jenkins

Becky Jenkins, Environmental Specialist
Ohio Department of Natural Resources
Division of Wildlife
Fish Management and Research
Stream Conservation & Environmental Assessment Unit
2045 Morse Rd., Building G
Columbus, OH 43229-6693
Office:(614)265-6631
FAX:(614)262-1143
becky.jenkins@dnr.state.oh.us

-----Original Message-----

From: Mishelle L. Beercheck [mailto:m.beercheck@gaiconsultants.com]
Sent: Thursday, June 12, 2008 9:39 AM
To: Jenkins, Becky
Cc: Mitch, Brian; Navarro, John; Jennifer C. Broush; Stephen E. Gould
Subject: RE: 08-0099; Franklin 20" Storage Pipeline Project - Habitat Assessment

Becky,

Thank you for your feedback. We have contacted Greg Lipps from the list of herpetologists to coordinate the Eastern hellbender habitat assessment. Also mentioned in your initial comments are four endangered bird species(American bittern, Trumpeter swan, Sandhill crane, and Golden-winged warbler). Does your office require certified personnel to perform these habitat assessments? With your approval, we would like to use Matthew White, with support from Anthony Baumert and Henry Schumacher, to perform the assessments. Matt has experience in both wetland identification and habitat data collection for bird species, and Anthony and Henry have experience in wetland and plant identification as well. Please let us know if you approve of our using these individuals to perform the bird habitat assessments.

Thanks for your help.

Mishelle

Mishelle L. Beercheck
Environmental Specialist

GAI Consultants, Inc. | Celebrating 50 Years
385 East Waterfront Drive
Homestead, PA 15120

T 412.476.2000 ext.1460
F 412.476.2020
www.gaiconsultants.com

From: Jenkins, Becky [mailto:Becky.Jenkins@dnr.state.oh.us]
Sent: Thursday, June 12, 2008 8:46 AM
To: Mishelle L. Beercheck
Cc: Mitch, Brian; Navarro, John
Subject: RE: 08-0099; Franklin 20" Storage Pipeline Project - Habitat Assessment

Mishelle:

Your e-mail to Brian Mitch was forwarded to me for response. For habitat assessments for the Eastern hellbender, the Ohio Department of Natural Resources, Division of Wildlife asks that you use the herpetologists shown on the attached list. Of the resumes you provided for review, we are familiar with Steven Crescenzo and have no objection with him doing a habitat assessment for the Eastern hellbender.

Becky Jenkins

Becky Jenkins, Environmental Specialist
Ohio Department of Natural Resources
Division of Wildlife
Fish Management and Research
Stream Conservation & Environmental Assessment Unit
2045 Morse Rd., Building G
Columbus, OH 43229-6693
Office:(614)265-6631
FAX:(614)262-1143
becky.jenkins@dnr.state.oh.us

-----Original Message-----

From: Mishelle L. Beercheck [mailto:m.beercheck@gaiconsultants.com]
Sent: Friday, May 23, 2008 10:05 AM
To: Mitch, Brian
Cc: Jennifer C. Broush; Stephen E. Gould; Sheri.L.Franz@dom.com;
'Scott.A.Hallam@dom.com'
Subject: 08-0099; Franklin 20" Storage Pipeline Project - Habitat Assessment

Brian,

We thank you for your assistance on the Franklin 20-inch Pipeline Project over the past few weeks. We would like to begin coordinating the habitat assessments requested in your letter of response. Attached for your review are resumes of staff we propose to utilize to perform the assessments. Please let us know if these staff meet your Department's approval.

Please feel free to call me or Jennifer Broush (ext. 1438) if you have questions or need additional information.

Thank you,
Mishelle

Mishelle L. Beercheck
Environmental Specialist

GAI Consultants, Inc. | Celebrating 50 Years
385 East Waterfront Drive
Homestead, PA 15120

T 412.476.2000 ext.1460
F 412.476.2020
www.gaiconsultants.com

From: Mitch, Brian [mailto:Brian.Mitch@dnr.state.oh.us]
Sent: Monday, May 12, 2008 10:06 AM
To: Mishelle L. Beercheck
Subject: 08-0099; Franklin 20" Storage Pipeline Project



ODNR COMMENTS TO Ms. Jennifer C. Broush, GAI Consultants, 385 East Waterfront Drive, Homestead, Pennsylvania, 15120.

Location: The site is located in Sections 23 and 24, Chippewa Township, Wayne County and Sections 25, 26, 27, 28, 29, and 30, Franklin Township, Summit County, Doylestown and Canal Fulton Quadrangles.

Project: The proposed project involves the construction of 8.7 miles of 20" natural gas pipeline. The proposed pipeline follows an existing pipeline right-of-way throughout nearly its entire length, minimizing disturbance to the surrounding area. Disturbance will be limited to a maximum 100" radius around the proposed centerline. Existing access roads and storage areas will be used and will be located within the one-half-mile study area being requested.

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There are no unique natural features within the proposed project and there are no state nature preserves, wildlife areas, or scenic rivers in the vicinity of the site. However, the site is near the Portage Lakes State Park. The red line on the map represents the approximate boundary of the park.

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.

Fish and Wildlife: The ODNR, Division of Wildlife (DOW) has the following comments.

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

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

The project is within the range of the bobcat (*Lynx rufus*), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The portion of the project located in Wayne County is within a county where current records exist for the Eastern massasauga (*Sistrurus catenatus*), a state endangered and a Federal candidate snake species. Due to the location of this project, the DOW believes the project is not likely to impact this species. However, if an Eastern massasauga is encountered during construction of the project, work should immediately be stopped, and the DOW should be contacted.

The portion of the project located in Wayne County is also within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if wetland habitat is located near the project area, construction must be avoided during the species' nesting period of May 1 to July 31. If no wetland habitat is in the vicinity of the project area, the project is not likely to impact this species.

The project area in Wayne County is also within the range of the trumpeter swan (*Cygnus buccinator*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if wetland habitat is located near the project area, construction must be avoided during the species' nesting period of May 1 to August 1. If no wetland habitat is in the vicinity of the project area, the project is not likely to impact this species.

Additionally, the portion of the project located in Wayne County is within the range of the sandhill crane (*Grus canadensis*), a state endangered species. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if grassland, prairie, or wetland habitat is in the vicinity of the project, construction must not occur during the species' nesting period of April 1 to September 1. If this habitat is not present near the project area, the project is not likely to have an impact on this species.

The portion of the project located in Wayne County is within the range of the Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered amphibian. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from that area. Therefore, if the project proposes to impact riparian corridor habitat, a survey conducted by an approved herpetologist is required to determine the presence or absence of the species.

The portion of the project located in Summit County is within the range of the elfin skimmer (*Nannothemis bella*), a state endangered dragonfly, the racket-tailed emerald (*Dorocordulia libera*), a state endangered dragonfly, and the chalk-fronted corporal (*Ladona julia*), a state endangered dragonfly. Due to the mobility of these species, the project is not likely to impact these species.

The portion of the project located in Summit County is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The portion of the project located in Summit County is also within the range of the golden-winged warbler (*Vermivora chrysoptera*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if shrub-dominated habitat such as successional fields, woodland edges, and clearings are present within the project area, construction must not occur during the species' nesting period of May 15 to July 15. If this successional habitat is not present, the project is not likely to impact this species.

The Natural Heritage Database contains records near the proposed project for the Virginia rail (*Rallus limicola*), a state bird species of special concern, and the sora (*Porzana carolina*) a state bird species of special concern. Due to the status of these species, the date of the records, and the type of work proposed, the DOW believes the project is not likely to impact this species.

Parks and Recreation: The ODNR, Division of Parks and Recreation has the following comments.

By the information provided it appears the pipeline *may* cross the boundary line for Portage Lakes State Park. The local contact is Regional Park Manager Bruce Carpenter; he can be contacted at 330-644-2220 for local questions or concerns.

If this project does cross state park land and/or water, a real estate agreement will need to be created. The agreement process should be started well in advance of the project start date. The agreement must be fully executed prior to work on the Division's land or waters. The Division of Parks and Recreation's Real Estate Manager is Mr. Kim Caris; Mr. Caris can be reached at 614-265-6514.

The Division expects that all appropriate construction and installation BMP's are implemented.

ODNR appreciates the opportunity to provide these comments. Please contact Brian Mitch at (614) 265-6378 if you have questions about these comments or need additional information.

Brian Mitch, Environmental Review Manager
Ohio Department of Natural Resources
Environmental Services Section
2045 Morse Road, Building C-4
Columbus, Ohio 43229-6693
Office: (614) 265-6378
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Date: June 23, 2008

Project/Admin. No.: C070939.00

Call From: Matt White

Tel No.: 1513

Company: GAI

Call To: Becky Jenkins

Tel No.: 614-265-6631

Company: ODNR

Subject: Habitat Assessment and Bird Survey Questions

cc:

Summary of Discussion, Decisions, and Commitments:

I spoke with Beck Jenkins about the need to determine the best course of action for habitat assessments for American Bittern, Trumpeter Swan, Sandhill Crane, and Golden-winged Warbler. I spoke with her about the possibility of ruling out that the potential for habitat for the American Bittern, Trumpeter Swan, and Sandhill Crane exists in the Project area within Wayne Co. because of the absence of large bodies of water and other landscape features not found in the area that are easily distinguishable of the habitat for these species. She said that a general statement report highlighting what is present in the area along with our determination will suffice for submission. I also asked her about habitat surveys and possible concurrent presence/absence surveys for Golden-winged Warbler and she indicated that approach is a good idea based upon the time restrictions of when the species breeding period ends. I also asked Becky about how the ODNR views HDD and her answer was that an HDD is viewed as no impact. However, if the situation arises and an open-cut is required then as a safety net the area should be previously evaluated for habitat.

Telephone Log

Breeding Habitat Assessment for the American Bittern (*Botaurus lentiginosus*),
Trumpeter Swan (*Olor buccinator*), and Sandhill Crane (*Grus canadensis*) in Wayne County, Ohio
Dominion East Ohio Gas, Franklin 20-Inch Storage Pipeline Project, Wayne and Summit Counties, Ohio

APPENDIX B
RESUMES OF SURVEY PERSONNEL

Matthew B. White

Senior Environmental Specialist

Education

B.S. Wildlife, Purdue University, 2005

M.S. Biology, Indiana University of Pennsylvania, 2008

Relevant Training/Courses

4-day 38-hour Army Corps of Engineers Wetland Delineation Training Program, Richard Chinn Environmental Training, Inc.

Ohio Rapid Assessment Method for Wetlands (ORAM) v5.0 2-day Training Course, Ohio Environmental Protection Agency

Previous Employment

Cerulean Warbler Technical Group Silviculture Study, Salt Lick, Kentucky, 2006-2007

Potawatomi Zoo, South Bend, Indiana, 2003

Summary

Mr. White specializes in environmental investigations and surveys covering streams, wetlands, water supply wells, and other natural features. Mr. White also conducts habitat assessments and surveys for threatened and endangered avian species.

Professional Experience

- Mr. White has conducted surveys for the Virginia state endangered Loggerhead Shrike (*Lanius ludovicianus*) as part of the Appalachian Power (AEP) Riverbend-Hickman 69kV electric transmission line Project in Pulaski County, Virginia
- Mr. White conducted environmental surveys and prepared permit applications for Columbia Gas Transmission Line-K Replacement Project located in Orange County, New York. Mr. White prepared necessary documentation for a NYDEC Freshwater Wetland Permit and SPDES Stormwater Permit. Mr. White also assisted with agency consultation regarding threatened or endangered species.
- Mr. White has conducted several environmental surveys and prepared permit applications (PaDEP Chapter 105 GP-5 and GP-8) for Columbia Gas of Pennsylvania. Projects included the D-500 and D-1357 Pipeline Replacement Project, D-84 Old Pittsburgh Road Pipeline Replacement Project, Frew Mill Road Pipeline Replacement Project, and Fischer Road Pipeline Replacement Project
- Environmental surveys for Columbia Gas Transmission, a NiSource Company, Ohio Storage Expansion Project. Field identification of various environmental features such as wetlands, streams, residences, water supply wells, and other natural features. Assisted with Federal Energy Regulatory Commission (FERC) environmental report and environmental assessment documentation. Mr. White also assisted with Pre-construction notification for Nationwide Permits 3 and 12.
- Field observations/investigations for Dominion Gas Transmission H-152. Field identification included various environmental features: wetlands, streams, residences, water supply wells, and other natural features.
- Field Crew Manager at the Cerulean Warbler Technical Group Silviculture Study in Salt Lick, Kentucky, responsible for hiring, training and managing a three-man crew. Responsible for data entry and data management and conducted research for the regional project. Conducted point counts, spot-mapping, foraging observations, and habitat data collection, and can consistently and independently locate Cerulean Warbler nests.
- Intern at the Potawatomi Zoo in South Bend, Indiana, working with amphibians, reptiles and mammals. Performed daily cleaning of exhibits and diet preparation, raised several species of Poison Dart Frogs, and provided exhibit creation (reptiles and amphibians).

APPENDIX 07-2F

**BREEDING HABITAT ASSESSMENT AND SURVEY REPORT FOR THE
GOLDEN-WINGED WARBLER**

**Breeding Habitat Assessment and Survey
for the Golden-winged Warbler (*Vermivora
chrysoptera*) in Summit County, Ohio**

**Dominion East Ohio Gas
Franklin 20-Inch Storage Pipeline Project
Wayne and Summit Counties, Ohio**

Project C070939.00/C080420.00
August 2008

Submitted By: Dominion East Ohio Gas
7015 Freedom Avenue, N.W.
North Canton, Ohio 44720

Prepared By: GAI Consultants, Inc.
Pittsburgh Office
385 East Waterfront Drive
Homestead, Pennsylvania 15120-5005



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1.0 INTRODUCTION

Dominion East Ohio Gas (Dominion) proposes to install approximately 8.7 miles of 20-inch natural gas pipeline in Chippewa and Franklin Townships of Wayne and Summit Counties, Ohio. The proposed work (Project) will follow an existing maintained pipeline right-of-way (ROW) for most of the Project length and disturbance associated with construction will be limited to 30 feet on either side of the centerline of the pipeline (Figure 1). The Project will be accessed using existing maintained access roads and the existing ROW.

Dominion contacted the appropriate federal and state regulatory agencies concerning the potential presence of endangered and threatened species in the vicinity of the proposed Project. Coordination with the Ohio Department of Natural Resources (ODNR), Division of Natural Areas and Preserves, identified that the Project lies within the range of four state endangered avian species (Appendix A). This report considers one of those species, the Golden-winged Warbler (*Vermivora chrysoptera*), a state endangered species (OAC 1501:31-23-01).

The ODNR requested that Dominion conduct habitat surveys to determine whether potential habitat occurs within the Project area for the Golden-winged Warbler in Summit County. Dominion retained GAI Consultants, Inc. (GAI) to conduct a habitat assessment and potential presence/absence surveys of the Project elements for the Golden-winged Warbler. With the approval from the ODNR, Division of Wildlife (Appendix A), qualified GAI personnel (Appendix B) conducted the surveys on June 30, 2008 and July 1, 2008. The methods and results of those surveys are described within this report.

2.0 GOLDEN-WINGED WARBLER

2.1 DISTRIBUTION AND CONSERVATION

The Golden-winged Warbler (*Vermivora chrysoptera*) is a small (4.75 inches) Nearctic-Neotropical migratory songbird that has been declining rangewide at an annual rate of 2.8 percent per year since 1966 (Sauer et al., 2008). The Golden-winged Warbler summer breeding range in North America extends from portions of the southeast, to the upper-midwest, the northeast, and into southern Canada (Dunn and Garrett, 1997). The species winters in Central and South America (Dunn and Garrett, 1997). Although the species historic breeding range is relatively unclear its range expanded considerably with the conversion of forest to agricultural land and subsequent abandonment of that land from the late 1700s through early 1900s (Dunn and Garrett, 1997). Recently the species range has been expanding in a northeastern direction while contracting in the south (Dunn and Garrett, 1997). Golden-winged Warbler global population is currently estimated to be approximately 210,000 individuals (Rich et al., 2004).

Precipitous Golden-winged Warbler population declines has warranted the species to be listed on Partners-in-Flight Continental Watch List (Rich et al., 2004), as a species of management concern in the United States, a threatened species by the Committee on the Status of Endangered Wildlife in Canada, and a endangered species in the state of Ohio (OAC 1501:31-23-01). The reasons for this decline have been attributed to loss of early-successional shrub-scrub habitat through changing landuse patterns and old-field succession (Klaus and Buehler, 2001), hybridization and competition with Blue-winged Warbler (*Vermivora pinus*) (Gill, 1980; and Confer et al., 2003), and Brown-headed Cowbird (*Molothrus ater*) nest parasitism (Confer et al., 2003).

In Ohio, the Golden-winged Warbler was historically described as either locally common or sporadically encountered (Peterjohn and Rice, 1991). Since the first half of the twentieth-century Golden-winged Warbler abundance has declined throughout Ohio with an estimated annual breeding population of three to five males (Peterjohn and Rice, 1991). Ohio Breeding Bird Atlas (BBA) data from 1982 through 1987 indicates that confirmed breeding pairs of Golden-winged Warbler were observed in Lucas, Franklin, Lorain, Cuyahoga, and Summit Counties (Peterjohn and Rice, 1991). Most extant populations in Ohio are located in the northeastern portion of the state (Peterjohn and Rice, 1991; and Ohio BBA, 2008).

2.2 BREEDING HABITAT AND REPRODUCTION

The Golden-winged Warbler is an early-successional species that occupies brushy thickets, overgrown/abandoned pastures, briery woodland borders, utility ROWs, young stands of oak-hickory, and along the perimeter of alder (*Alnus* spp.), tamarack (*Larix decidua*), or willow (*Salix* spp.) swamps (Peterjohn and Rice, 1991; Dunn and Garrett, 1997; Buehler et al., 2007; and ODNR, 2008). Golden-winged Warbler habitat throughout their range can be described as early-successional habitat with a young, dense, short (less than

three meters) shrub-scrub component with moderate to high-levels of herbaceous cover in a matrix like pattern (Dunn and Garrett, 1997; and Hunter et al., 2001). Golden-winged Warblers establish territories based on the degree of patchiness and structural complexity of the herbaceous and woody vegetation (Rossell Jr. et al., 2003). These habitat conditions are often found in stands less than 30 years into secondary succession (Confer and Knapp, 1981), but more often in much younger stands (Martin et al., 2007).

Golden-winged Warblers reach their breeding range during the later weeks of April and may remain on the breeding grounds through mid-August. The Golden-winged Warbler breeding season lasts about six weeks (Buehler et al., 2007). Territories are most often located in an area with at least 10 to 50 hectares (ha) of suitable habitat (Confer and Knapp, 1981). Territories on average are 0.2 to 5.2 ha in size and often clumped together to form loose breeding colonies (Confer and Knapp, 1981, summarized in Rossell Jr. et al., 2003; and GWWA Atlas Project, 2008). Nesting habitat is described as an open area with patches of shrubs (less than three meters tall) with a scattering of trees that may or may not occur at an ecotone (Confer, 1992; Dunn and Garrett, 1997; and Buehler et al., 2007). A dense herbaceous layer containing forbs (e.g., *Solidago* spp.), grasses (*Andropogon* spp.), blackberry (*Rubus* spp.), and sedges are also necessary for nest placement (Peterjohn and Rice, 1991; Confer, 1992; and Klaus and Buehler, 2001). Nests are placed on or slightly off the ground often in the base of a cluster of grasses for nest concealment (Gill, 1980; and Confer, 1992).

The Golden-winged Warbler is a seasonally monogamous breeder, raising a single brood annually (Ehrlich et al., 1988; and Confer, 1992). Nests are constructed of herbaceous material and formed into a cup-like shape with three to six eggs per clutch (Ehrlich et al., 1988; and Buehler et al., 2007). Nests covered with higher amounts of herbaceous cover and nests farther away from Blue-winged Warbler typically contain larger clutches (Confer et al., 2003).

The Golden-winged Warbler, like many other migratory songbirds, is an insectivorous bird that gleans off of vegetation. The Golden-winged Warbler often consumes spiders and probes off insects from dead vegetation (Ehrlich et al., 1988).

2.3 HYBRIDIZATION

The Golden-winged Warbler regularly hybridizes with the Blue-winged Warbler, a closely related species that occupies similar habitat and exhibits similar behaviors (Gill, 1980; Dunn and Garrett, 1997; and Buehler et al., 2007). The hybridization between these two species produces the Brewster's Warbler (F1 Generation). However, when a Brewster's Warbler mates with either a pure Blue-winged or pure Golden-winged Warbler the rarer Lawrence's Warbler (F2 Generation) is produced. The Brewster's Warbler exhibits phenotypically dominant traits, whereas the Lawrence's Warbler exhibits phenotypically recessive traits for the two pure parental parent species. Hybridization between these two species was first discovered in 1870 (Dunn and Garrett, 1997). The ultimate result of the hybridization between Golden-winged and Blue-winged Warblers has been at the expense of the Golden-winged Warbler population through competition and genetic

introgression (Gill, 1980; and Buehler et al., 2007). Within 50 years of initial contact between Golden-winged and Blue-winged Warblers where species ranges overlap the Blue-winged Warbler is likely to be the only species to remain (Gill, 1980). Within Ohio both the Brewster's and Lawrence hybrids occur but are very rare (Peterjohn and Rice, 1991).

3.0 SURVEY METHODOLOGY

The identification of potential breeding habitat for the Golden-winged Warbler within the Project area in Summit County, Ohio was conducted on June 30 and July 1, 2008. Prior to field surveys aerial mapping was reviewed for potential habitat. Areas identified as potential habitat on aerial mapping were subject to an on-site visit to determine habitat suitability, and all portions of the Project area were reviewed in the field for confirmation of aerial photography. Areas identified on aerial mapping as potential habitat contained either open habitat with some forest edge or noticeable clumping of vegetation indicating the possible presence of scattered shrub-scrub habitat.

3.1 HABITAT ASSESSMENT

Potential Golden-winged Warbler breeding habitat was identified based upon the following criteria:

- Early-successional habitat as a result of timber harvesting, secondary succession, agricultural abandonment, utility ROW, or any area containing young shrub-scrub habitat.
- Areas dominated by a matrix of shrub and herbaceous cover containing *Solidago* spp., *Rubus* spp., *Viburnum* spp., *Cornus* spp., *Rosa multiflora*, or grasses and sedges.
- Areas containing a few scattered trees or trees along an ecotone creating a feathered boundary between an abandoned field and a forest.

Locations meeting these criteria within the Project area were identified as potential Golden-winged Warbler breeding habitat and were subject to presence/absence surveys.

3.2 POINT-COUNT SURVEYS

Areas determined to contain potential Golden-winged Warbler habitat were subject to point-count surveys. Point-count surveys assess the avian community in an area and were used to determine either the presence or absence of Golden-winged Warbler in the Project area. Point-count surveys were supplemented with playback recordings of Golden-winged Warbler Type I songs (Ralph et al.; 1995; and Kubel and Yahner, 2007). Point-counts using playback recordings were based and modified on methods used by Ralph et al. (1995), Klaus and Buehler (2001), Kubel and Yahner (2007), and Martin et al. (2007). Point-count procedures at each sampling location included: 1) a two-minute rest period after arrival to a point-count location so birds could resume normal activity before commencement of surveys, 2) followed by a five-minute pre-playback observation period, 3) a 1.3-minute playback stimulus period, and 4) a three-minute post-playback observation period. The 1.3-minute stimulus playback period included the broadcast of seven Type 1 (*zee bee bee bee*) songs of Golden-winged Warbler spaced at 10-second intervals at an

auditory level comparable to that of the species (Kubel and Yahner, 2007). The use of playback calls to elicit a response from Golden-winged Warbler is often used to determine the presence of the species in a particular location while increasing detection probability (Klaus and Buehler; 2001; Kubel and Yahner, 2007; and Martin et al., 2007). Type 1 Golden-winged Warbler song was used because this song type elicits a strong response by individuals (Ficken and Ficken, 1973).

All avian species heard and seen during point-counts were recorded at estimated distance intervals of 0 to 25 meters, 25 to 50 meters, 50 to 100 meters, and more than 100 meters.

Surveys were conducted between dawn and 10:00 a.m. and during times where rain was absent and wind speeds did not interfere with playback transmission or auditory identification of individuals. All point-count surveys were conducted by Mr. Matthew B. White with assistance from Mr. Dennis J. Costa, both of GAI.

4.0 RESULTS

4.1 HABITAT ASSESSMENTS

The majority of the habitat traversed by the Project area in Summit County consists of open herbaceous fields and roadsides, agricultural crop land, residential development and lawns, small/medium woodlots, wetlands, and the Tuscarawas River across a gently sloping landscape (Figures 1, 2, and 3).

Overstory trees regularly occurring throughout the Project area included American beech (*Fagus grandifolia*), Northern red oak (*Quercus rubra*), hickory (*Carya* spp.), sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), and sassafras (*Sassafras albidum*).

The mid-story/sapling layer was dominated by these same species and also included ironwood (*Carpinus caroliniana*) and witch hazel (*Hammamelis virginiana*). Understory species included spicebush (*Lindera benzoin*), honeysuckle (*Lonicera* spp.), grape (*Vitis* spp.), poison ivy (*Toxicodendron radicans*), garlic mustard (*Alliaria petiolata*), red clover (*Trifolium pratense*), Virginia creeper (*Parthenocissus quinquefolia*), mayapple (*Podophyllum peltatum*), Trillium spp., and hay-scented fern (*Dennstedtia punctilobula*). Additional species that occupied disturbed areas, the existing natural gas pipeline ROW, and grass/sedge meadows included Timothy grass (*Phleum pratense*), reed canary grass (*Phalaris arundinacea*), goldenrod (*Solidago* spp.), common yarrow (*Achillea millefolium*), spotted joe-pye weed (*Eupatorium maculatum*), multiflora rose (*Rosa multiflora*), plantain (*Plantago* spp.), oxeye daisy (*Chrysanthemum leucanthemum*), autumn olive (*Elaeagnus umbellata*), blackberry (*Rubus* spp.), sumac (*Rhus* spp.), teasel (*Dipsacus fullonum*), dogbane (*Apocynum* spp.), boxelder (*Acer negundo*), rye, rice cut grass (*Leersia oryzoides*), pokeweed (*Phytolacca americana*), orchard grass (*Dactylis glomerata*), and Japanese knotweed (*Polygonum cuspidatum*).

The following habitat descriptions highlight the Project route and its potential to contain suitable Golden-winged Warbler breeding habitat. Moving from the western edge of the Project in Summit County at the intersection of Taylor Road (T.R. 11) and Clinton Road (C.R. 260) to the eastern terminus of the Project west of Nimisila Reservoir, habitat descriptions are as follows:

- From the intersection of Clinton Road and Taylor Road, the pipeline heads southeast for approximately 900 feet through a grassy roadside that abuts a treeline with no feathering between habitats (Photograph 1). No shrubs are located in this area. This area is not Golden-winged Warbler habitat.
- The pipeline then crosses in front of a residence into a forested area. This area contains mature trees and a maintained ROW absent of shrubs. A majority of the existing ROW in this area is covered by canopy trees adjacent to the ROW (Photograph 2). This area also contains a few small openings, however, these

openings lack a developed herbaceous layer and lack shrubs (Photograph 3). The forested areas that surround this area is not feathered. This area is not Golden-winged Warbler breeding habitat.

- After the pipeline crosses Cleveland Massillion Road, it briefly parallels a gravel road bordered by trees and residences before gently heading south into an abandoned farm field (Photograph 4) and then into an emergent wetland (Photograph 5) before reaching the railroad tracks. The portion of the pipeline that passes through the abandoned farm field is a shrub-scrub habitat primarily consisting of multiflora rose (*Rosa multiflora*) and goldenrod (*Solidago* spp.). This area was determined to potentially contain suitable Golden-winged Warbler breeding habitat. See Section 4.2 for further information on potential Golden-winged Warbler habitat.
- East of the railroad tracks but west of the Tuscarawas River is dominated by young to mature forest mixed with wetlands, open water, and small openings containing herbaceous vegetation absent of a well developed shrub community (Photographs 6 and 7). This area is not Golden-winged Warbler breeding habitat.
- From the Tuscarawas River past Van Buren Road to Kepler Road, the pipeline passes through mature woodlots via an existing maintained ROW dominated by short herbaceous cover absent of shrubs (Photograph 8 and 9), through open residential yards, agricultural land, and existing ROW bordered by a pole-size/mature woodlot (Photographs 10 and 11). This area is not Golden-winged Warbler breeding habitat.
- From Kepler Road to West Nimisila Road, the pipeline heads in a southeastern direction through active agricultural land (Photograph 12). This area is not Golden-winged Warbler breeding habitat.
- From Kepler Road, the pipeline continues in a southeastern direction through an open field absent of a shrub community and an emergent wetland before heading east through woodlots, short grassy fields, and residential lawns until the pipeline reaches Grove Road (Photographs 13 and 14). This area is not Golden-winged Warbler breeding habitat.
- Between Grove Road and Hampsher Road, the pipeline passes through residential lawns, active agricultural land, and utility (Dominion East Ohio Gas Franklin Compressor Station) development (Photograph 15). This area is not Golden-winged Warbler breeding habitat.
- From Grove Road, the pipeline passes through a wetland dominated by three invasive species: narrow-leaf cattail (*Typha angustifolia*), Japanese knotweed (*Polygonum cuspidatum*), and reed canary grass (*Phalaris arundinacea*), in an area bordered by second growth woods (Photograph 16). The proposed pipeline continues east through open residential lawns and a narrow strip of trees, where

there is an existing maintained ROW (Photograph 17). This area is not Golden-winged Warbler breeding habitat.

- Between Manchester Road and the eastern terminus of the Project, the proposed pipeline passes through small grassy fields absent of shrubs and bordered by an abrupt tree line (Photograph 18), woodlots bisected by an existing maintained ROW absent of shrubs (Photograph 19), open active agricultural land, and residential developments (Photograph 20). This area is not Golden-winged Warbler breeding habitat.

Commonly observed avian species along the Project route in Summit County included the following:

- Hooded Warbler (*Wilsonia citrina*);
- Wood Thrush (*Hylocichla mustelina*);
- White-breasted Nuthatch (*Sitta carolinensis*);
- Black-capped Chickadee (*Poecile atricapilla*);
- Indigo Bunting (*Passerina cyanea*);
- Red-eyed Vireo (*Vireo olivaceus*);
- White-eyed Vireo (*Vireo griseus*);
- Northern Cardinal (*Cardinalis cardinalis*);
- American Robin (*Turdus migratorius*);
- Acadian Flycatcher (*Empidonax vireescens*);
- Eastern Wood-pewee (*Contopus virens*.);
- American Goldfinch (*Carduelis tristis*);
- Mourning Dove (*Zenaida macroura*);
- Red-tailed Hawk (*Buteo jamaicensis*);
- Gray Catbird (*Dumetella carolinensis*);

- Barn Swallow (*Hirundo rustica*);
- Song Sparrow (*Melospiza melodia*);
- Chipping Sparrow (*Spizella passerina*);
- Field Sparrow (*Spizella pusilla*);
- Yellow Warbler (*Dendroica peterchia*);
- Green Heron (*Butorides virescens*);
- Red-bellied Woodpecker (*Melanerpes carolinus*);
- Downy Woodpecker (*Picoides pubescens*);
- Baltimore Oriole (*Icterus galbula*);
- Orchard Oriole (*Icterus spurius*);
- Red-winged Blackbird (*Agelaius phoeniceus*);
- Carolina Wren (*Thryothorus ludovicianus*);
- Eastern Phoebe (*Sayornis phoebe*);
- Common Yellowthroat (*Geothlypis trichas*);
- American Crow (*Corvus brachyrhynchos*);
- Blue Jay (*Cyanocitta cristata*);
- Cedar Waxing (*Bombycilla cedrorum*);
- Eastern Towhee (*Pipilo erythrophthalmus*), and
- European Starling (*Sturnus vulgaris*)

4.2 POTENTIAL GOLDEN-WINGED WARBLER BREEDING HABITAT

Within the Project area one location was determined to potentially contain suitable Golden-winged Warbler breeding habitat. This area is located approximately 500 feet east of Cleveland Massillion Road (Figure 4). This area appears to be an abandoned farm field surrounded by residences to the west (Photograph 21), an open field to the south, a wetland to the east (Photograph 22), and an older field with a mature tree-line to the north (Photograph 23). The habitat in this area contains a scattering of mature trees [e.g., black willow (*Salix nigra*)], with saplings consisting of black willow and sumac (*Rhus* spp.). These trees and saplings were scattered in an area dominated by shrub-scrub habitat (Photographs 24 and 25). The shrub component was dominated by black willow, autumn olive (*Elaeagnus umbellata*), multiflora rose, and black cherry (*Prunus serotina*). The herbaceous layer was thick and dominated by goldenrod, teasel (*Disacus* spp.), grasses, New York Ironweed (*Elaeagnus umbellata*), and Canada thistle (*Cirsium arvense*). Also present within the herbaceous layer were a few small areas (less than two square feet) absent of thick vegetation and exposing bare soil.

Approximately 500 feet of proposed pipeline passes through this potential Golden-winged Warbler habitat. Based on aerial photography the approximate extent of suitable breeding habitat within and immediately adjacent to the Project is between 0.8 and 1.6 ha.

Although this area was determined to potentially contain suitable Golden-winged Warbler breeding habitat this area is probably limited by several factors. The size of available suitable habitat in the Project vicinity is likely too small (less than 1.6 ha) in comparison to areas that Golden-winged Warblers typically occupy (10 to 50 ha; Confer and Knapp, 1981). A small tract of suitable habitat would also not allow for communal aggregation of territories (Confer and Knapp, 1981). Residences approximately 400 feet to the west of the approximate center of suitable habitat along the Project route likely have a negative influence on habitat quality. The presence of autumn olive, a common shrub in this area, also likely lowers habitat quality (Dunn and Garrett, 1997). Additionally, other invasive species such as reed canary grass dominate the adjacent wetland and the presence of this species likely lowers the quality of this habitat for the Golden-winged Warbler.

Nonetheless, the potential for suitable Golden-winged Warbler breeding habitat exists in this area of the Project. In order to determine presence/absence of the species point-count surveys were conducted.

4.3 POINT-COUNT SURVEYS

A single point-count survey was conducted on July 1, 2008 by Mr. White with assistance by Mr. Costa at the location determined to contain potential Golden-winged Warbler habitat (Figure 4). The location of the point-count survey was located approximately in the center of potentially suitable habitat bisected by the Project. The point-count survey occurred at 6:40 a.m. with clear skies, no wind, and with temperatures around 50° F. The results of all avian species heard or observed during this point-count event are listed in Table 1. The Golden-winged Warbler was neither heard nor observed during this point-count event

supplemented with playbacks. Additionally, no Blue-winged Warblers or hybrids were observed or detected either during point-count surveys or previous site visits.

According to BBA data for the three blocks (51A5CE, 51A6CW, and 51A6CE) in which the Project is located, there have been no observations of the Golden-winged Warbler or confirmed breeding in these blocks during any atlas survey event (Ohio BBA, 2008). The BBA represents one of the most complete compilations of information describing avian communities and their locations within Ohio available to date.

5.0 CONCLUSIONS

Habitat assessments and presence/absence surveys for the Golden-winged Warbler were conducted on June 30, 2008 and July 1, 2008. The results of the habitat assessment identified that a relatively small portion (approximately 500 feet) of the Project area potentially contained suitable Golden-winged Warbler breeding habitat in Summit County, Ohio. Presence/absence surveys using point-counts supplemented with playbacks were conducted on July 1, 2008, even though potential limitations to the use of this habitat exist, such as habitat quantity and quality. No Golden-winged Warblers were located during the point-count survey. In addition, no Blue-winged Warblers, Brewster's Warblers, or Lawrence's Warblers were observed at the point-count location contained within the potentially suitable Golden-winged Warbler breeding habitat.

Based on the results of this investigation, no impacts to the Golden-winged Warbler are anticipated as a result of the proposed Project.

The scope of this survey is limited to the areas affected by the proposed Project as described herein. Review and concurrence on the results of this habitat assessment and survey are required from the ODNR Division of Wildlife.

Respectfully submitted,
GAI Consultants, Inc.

Matthew B. White
Senior Environmental Specialist

Stephen E. Gould, Q.E.P., G.I.S.P.
Project Manager

MBW:SEG/hmm
0842000f001-has-mbw/dominion d5

6.0 REFERENCES

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TABLE

Table 1

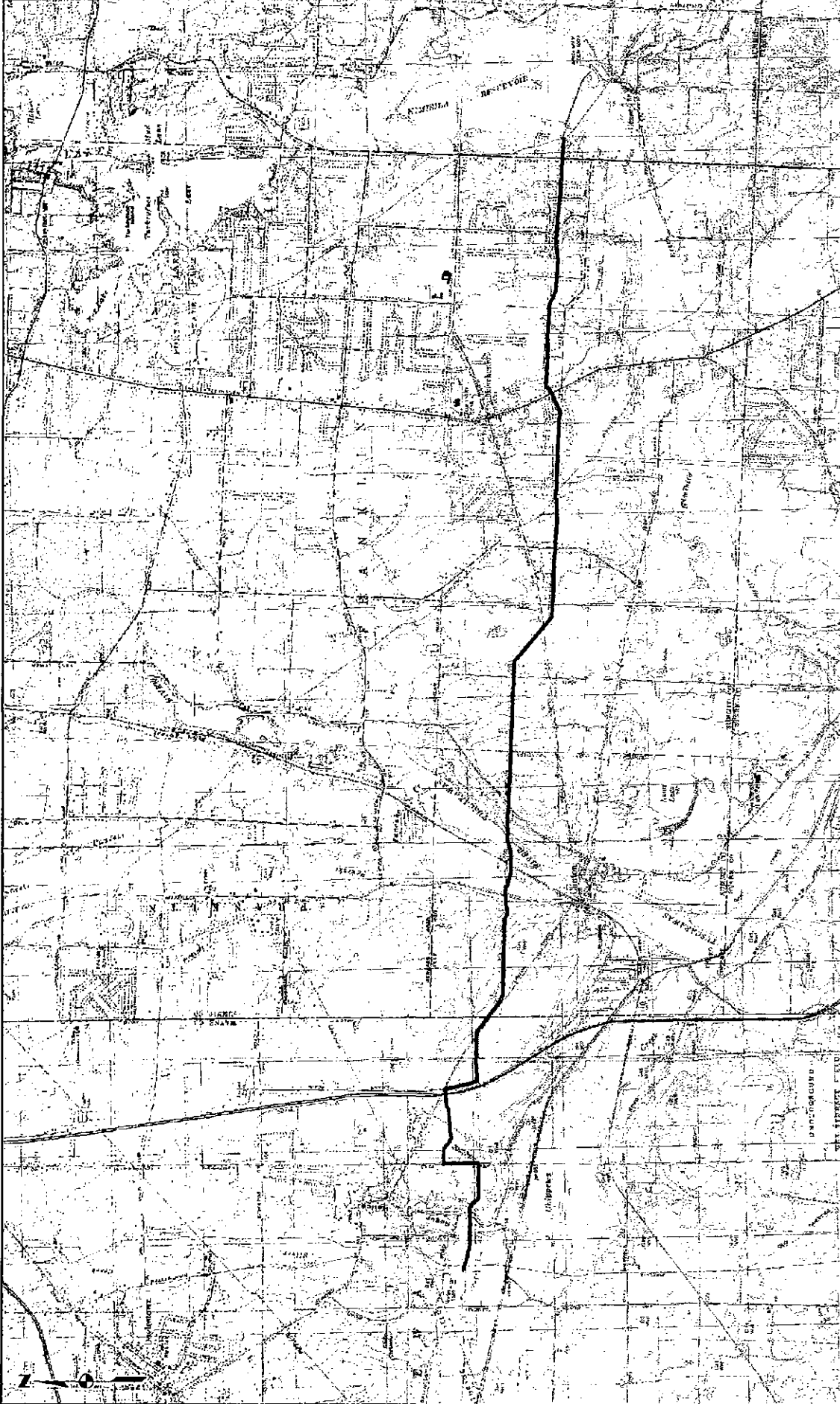
POINT-COUNT SURVEY DATA SHEET

Project:	Proposed Franklin 20-Inch Storage Pipeline Project	Location:	Summit County, Ohio		
Observer:	Matthew B. White	Point-Count Location:	East of Cleveland Massillion Road		
Date and Time:	July 1, 2008, 6:40 a.m.	Weather:	Clear Skies, 50° F, No Wind		
Species		Distance (meters)			
		0 to 25	25 to 50	50 to 100	> 100
Northern Cardinal (<i>Cardinalis cardinalis</i>)		1		1	
Yellow Warbler (<i>Dendroica melodia</i>)		1			
Red-tailed Hawk (<i>Buteo jamaicensis</i>)					2
Great Blue Heron (<i>Ardea herodias</i>) ¹					1
Ruby-throated Hummingbird (<i>Archilochus colubris</i>) ¹		1			
American Crow (<i>Corvus brachyrhynchos</i>)					1
Gray Catbird (<i>Dumetella carolinensis</i>)			1		
Red-winged Blackbird (<i>Agelaius phoeniceus</i>)			1	1	
Eastern Phoebe (<i>Sayornis phoebe</i>)				1	
Song Sparrow (<i>Melospiza melodia</i>)		1	1		
Barn Swallow (<i>Hirundo rustica</i>)			1		
Indigo Bunting (<i>Passerina cyanea</i>)			1		
Black-capped Chickadee (<i>Poecile atricapilla</i>)			1		
Mourning Dove (<i>Zenaida macroura</i>)				2	
Common Yellowthroat (<i>Geothlypis trichas</i>)			1		

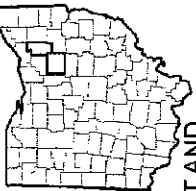
Note:

¹ Indicates flyover observation.

FIGURES



PROJECT LOCATION



**SUMMIT AND
WAYNE COUNTIES, OHIO**



LEGEND

— PREFERRED ROUTE

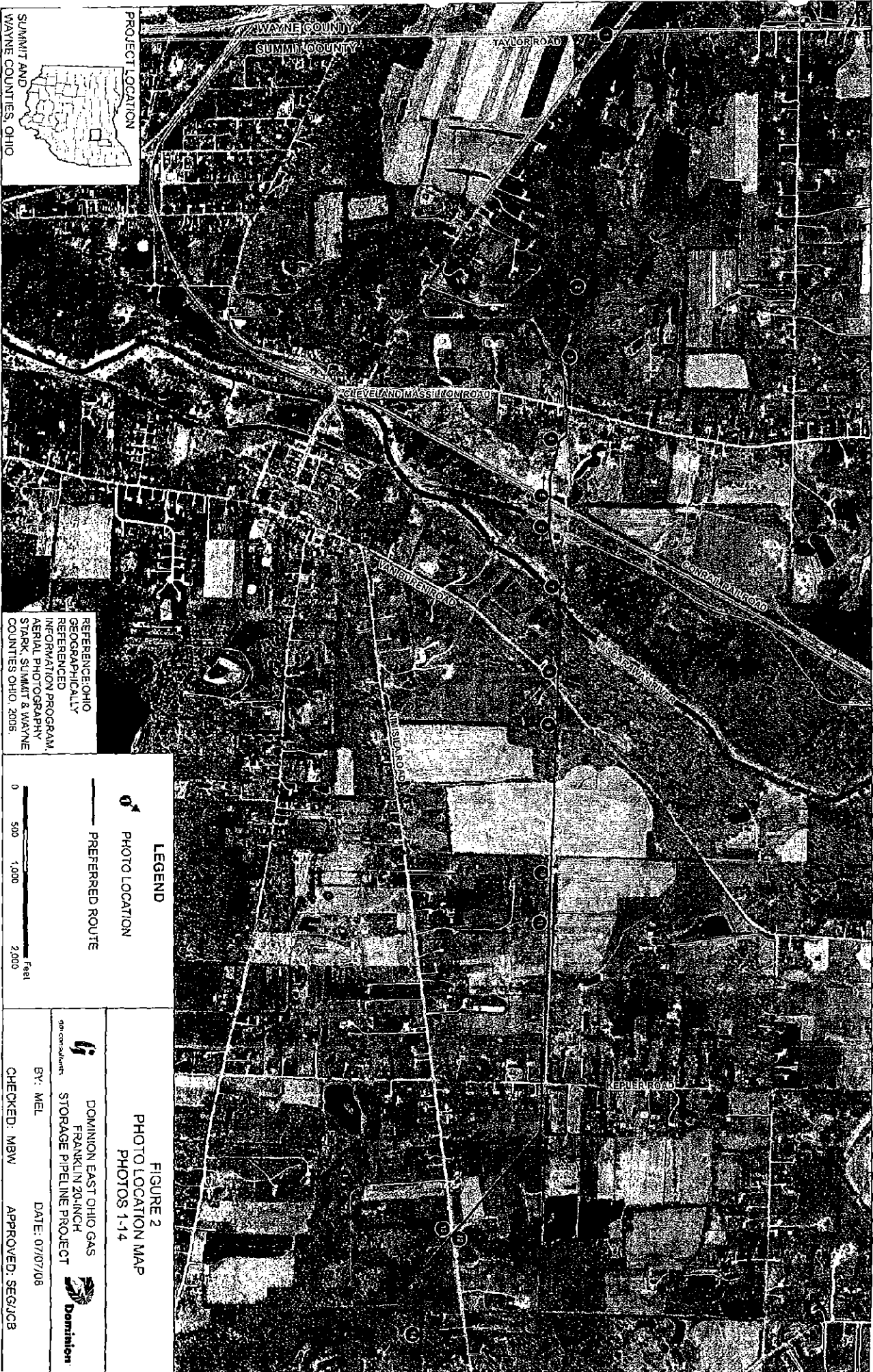


REFERENCES: USGS 7.5'
QUADRANGLES, CANAL
FULTON AND
DOYLESTOWN, OH.

**FIGURE 1
PROJECT LOCATION MAP**



 DOMINION EAST OHIO GAS
FRANKLINE 20-INCH
STORAGE PIPELINE PROJECT

DRAWN BY: MEL DATE: 07/07/2008
 CHECKED: MBW APPROVED: SEG/JCB



PROJECT LOCATION

WAYNE COUNTY
SUMMIT COUNTY

TAYLOR ROAD

CLEVELAND MASSILLON ROAD

VAN FLEET ROAD

GARMAN FARM ROAD

REPPER ROAD

WAYNE COUNTY, OHIO

REFERENCE OHIO
GEOGRAPHICALLY
REFERENCED
INFORMATION PROGRAM
AERIAL PHOTOGRAPHY
STARK, SUMMIT & WAYNE
COUNTIES OHIO, 2005.

LEGEND

PHOTO LOCATION

PREFERRED ROUTE

0 500 1,000 2,000 Feet

FIGURE 2
PHOTO LOCATION MAP
PHOTOS 1-14

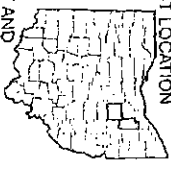
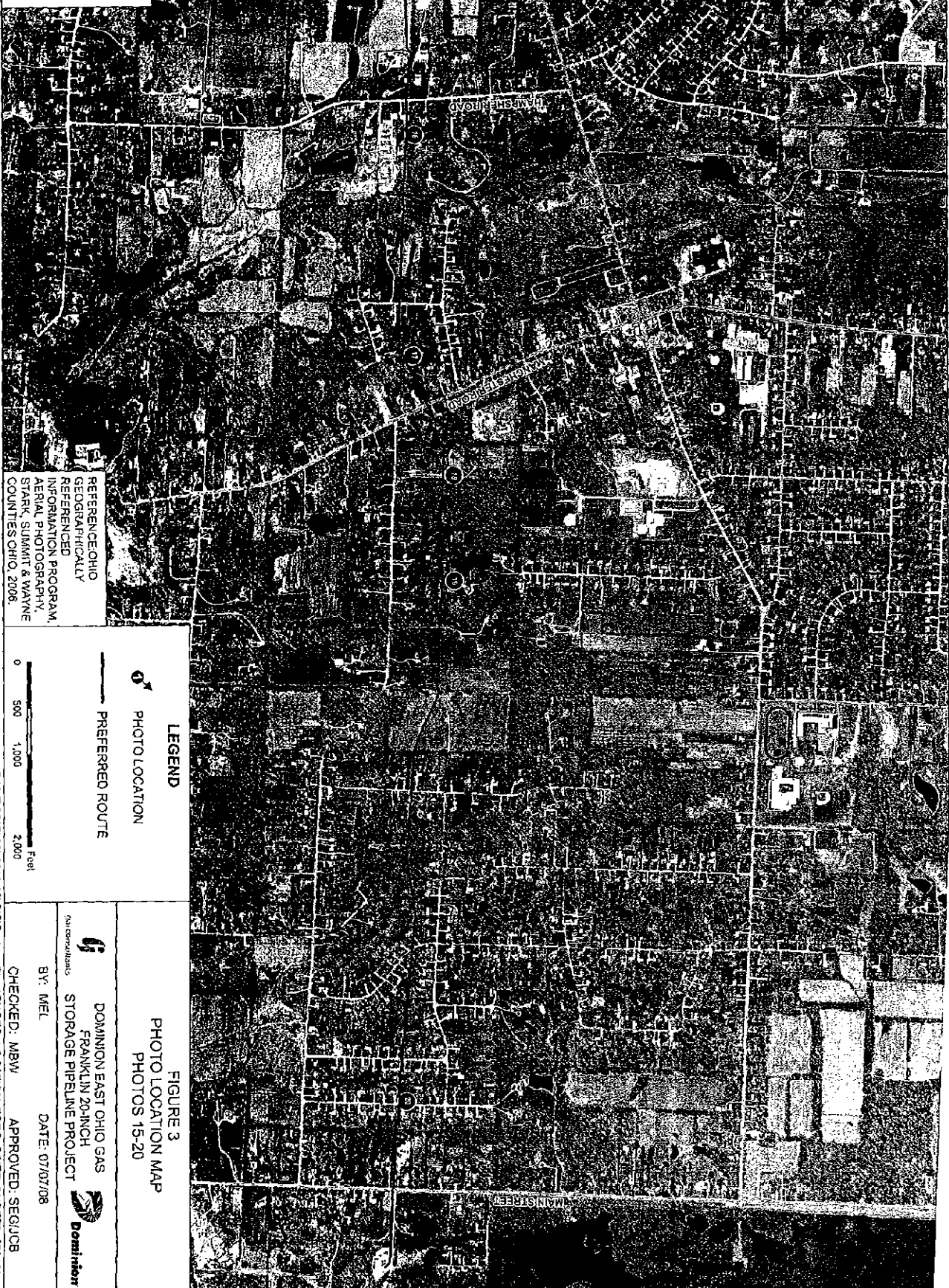
DOMINION EAST OHIO GAS
FRANKLIN 20-INCH
STORAGE PIPELINE PROJECT

BY: MEL DATE: 07/07/08

CHECKED: MBW APPROVED: SEG/JCB


Dominion


PROJECT LOCATION
 SUMMIT AND WAYNE COUNTIES, OHIO

REFERENCE OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM, AERIAL PHOTOGRAPHY, STARK, SUMMIT & WAYNE COUNTIES OHIO, 2008.


LEGEND

 PHOTO LOCATION

 PREFERRED ROUTE


0 500 1,000 2,000 Feet

FIGURE 3
 PHOTO LOCATION MAP
 PHOTOS 15-20

 DOMINION EAST OHIO GAS
 FRANKLIN 20-INCH
 STORAGE PIPELINE PROJECT

BY: MEL DATE: 07/07/08

CHECKED: MBW APPROVED: SEG/JOB

 Dominion

P:\p11\2007\0070989_00\GIS\p\q\refl_files\PHOTO_LOCATION_TOPO_8SIZE_SHEET2_070708.m



FIGURE 4
POTENTIAL GOLDEN-WINGED
WARBLER HABITAT

DOMINION EAST OHIO GAS
 FRANKLINE 20-INCH
 STORAGE PIPELINE PROJECT

DRAWN BY: MEL DATE: 07/07/2008
 CHECKED: MBW APPROVED: SEG/JCB

LEGEND

☀ POINT-COUNT LOCATION
 ① PHOTO LOCATION
 - - - PREFERRED ROUTE

0 100 200 400 Feet

PROJECT LOCATION

REFERENCE: OHIO
 GEOGRAPHICALLY
 REFERENCED
 INFORMATION
 PROGRAM, AERIAL
 PHOTOGRAPHY, SUMMIT
 COUNTY, OHIO, 2006.

SUMMIT AND
 WAYNE COUNTIES, OHIO

PHOTOGRAPHS



Photograph 1. ROW along Clinton Road, viewing southeast.



Photograph 2. ROW between Clinton Road and Cleveland Massillon Road, viewing west.

Breeding Habitat Assessment and Survey for the Golden-winged Warbler (*Vermivora chrysoptera*) in Summit County, Ohio - Dominion East Ohio Gas, Franklin 20-Inch Pipeline Project, Wayne and Summit Counties, Ohio



Photograph 3. ROW approximately 400 feet west of Cleveland Massillion Road, viewing east.



Photograph 4. Abandoned farm field approximately 400 feet east of Cleveland Massillion Road, viewing south. Potential Golden-winged Warbler habitat.



Photograph 5. Emergent wetland west of railroad tracks, viewing west.



Photograph 6. Existing ROW east of the Ohio & Erie Canal Towpath Trail, viewing east.



Photograph 7. Open area immediately west of the Tuscarawas River, viewing southwest.



Photograph 8. Existing ROW between the Tuscarawas River and Van Buren Road, viewing east.



Photograph 9. Existing maintained ROW approximately 400 feet east of Van Buren Road, viewing east.



Photograph 10. Existing maintained ROW between Van Buren Road and Kepler Road, viewing east.



Photograph 11. Existing maintained ROW between Van Buren Road and Kepler Road, viewing southwest.



Photograph 12. Existing maintained ROW passing through agricultural land between Kepler Road and West Nimisila Road, viewing northwest.



Photograph 13. Open field south of West Nimisilia Road, viewing southeast.



Photograph 14. Existing maintained ROW through forested woodlot, viewing east.



Photograph 15. Existing maintained ROW passing through residential lawns east of Grove Road, viewing west.



Photograph 16. Wetland dominated by invasive species east of Hampsher Road, viewing east.



Photograph 17. Existing maintained ROW bordered by a narrow strip of trees between Steve Drive and Manchester Road, viewing east.



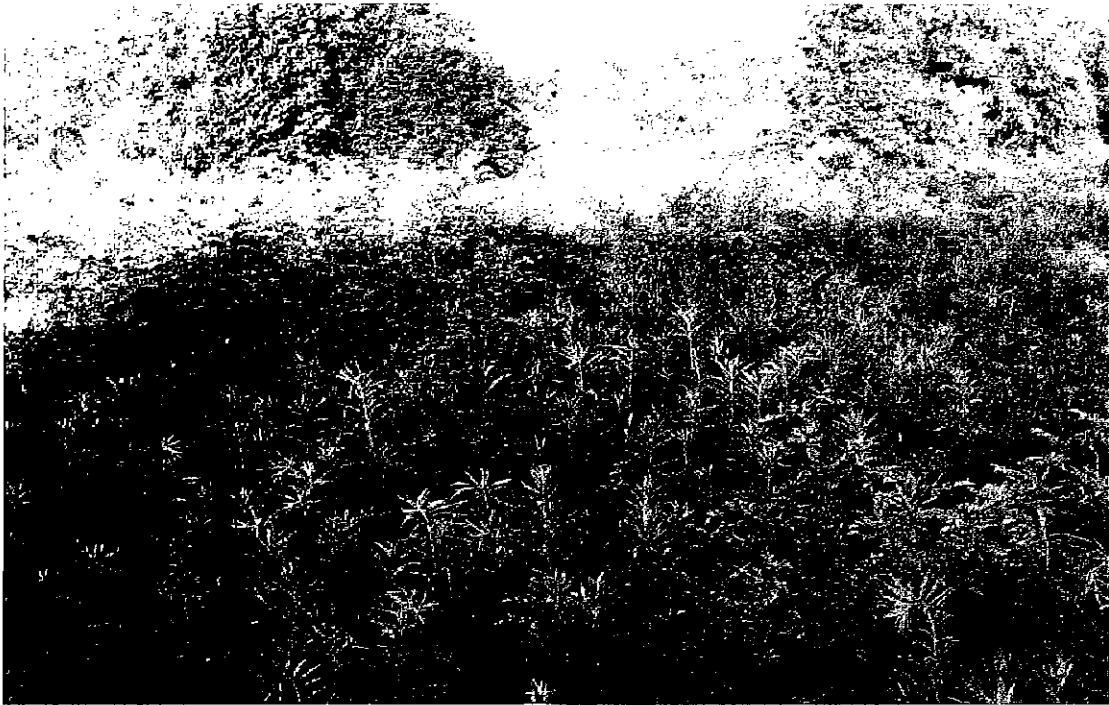
Photograph 18. Existing maintained ROW passing through an open grassy field east of Manchester Road, viewing west.



Photograph 19. Existing maintained ROW bordered by forested woodlots, viewing east.



Photograph 20. Existing ROW passing through residential developments west of Canterbury Drive, viewing west.



Photograph 21. Potential Golden-winged Warbler breeding habitat, viewing west, toward residences.



Photograph 22. Wetland east of potential Golden-winged Warbler breeding habitat, viewing from railroad tracks, looking west.



Photograph 23. Potential Golden-winged Warbler breeding habitat, viewing north.



Photograph 24. Potential Golden-winged Warbler breeding habitat, viewing east.



Photograph 25. Potential Golden-winged Warbler breeding habitat, viewing south.

APPENDIX A
AGENCY CORRESPONDENCE



March 28, 2008

Project C070939.00

Mr. Brian Mitch
Environmental Review Manager
Ohio Department of Natural Resources
Division of Real Estate and Land Management
Ohio Natural Heritage Program
2045 Morse Road, Building C-4
Columbus, Ohio 43229

Dominion East Ohio
Proposed Franklin 20-Inch Storage Pipeline Project
Threatened and Endangered Species
Wayne and Summit Counties, Ohio

Dear Mr. Mitch:

GAI Consultants, Inc. (GAI), on behalf of Dominion East Ohio (DEO), is preparing an application to the Ohio Power Siting Board as well as applications for appropriate environmental permits and approvals for the proposed Franklin 20-Inch Storage Pipeline Project (Project). The proposed Project involves the installation of 8.7 miles of 20-inch natural gas pipeline in Chippewa and Franklin Townships of Wayne and Summit Counties, Ohio, respectively. The proposed pipeline, shown on the attached Project Location Map (Attachment A), would serve to enhance DEO's gas storage system. The proposed pipeline follows an existing pipeline right-of-way throughout nearly its entire length, minimizing disturbance to the surrounding area. Disturbance will be limited to a maximum 100-foot radius around the proposed centerline shown on the attached topographic map. Existing access roads and storage areas will be used and will be located within the one-half-mile study area being requested.

GAI is requesting a Natural Heritage Database review of the Project area and your comments concerning the potential for impact, if any, to federally- and state-listed threatened and endangered species, their critical habitat, or other sensitive resources within one-half-mile of the Project area shown on the attached map. Also attached for your use is the completed Division of Natural Areas and Preserves Data Request Form (Attachment B).

DEO and GAI appreciate your timely review of this request. If there are questions or concerns, please feel free to contact either Ms. Jennifer C. Broush or me at 412-476-2000.

Respectfully submitted,
GAI Consultants, Inc.

Stephen E. Gould, Q.E.P., G.I.S.P.
Project Manager

SEG:JCB:MLB/gmg
0793900-odnr-ltr-mlb/seg D1

Attachments

cc: Mr. Scott A. Hallam, Dominion East Ohio
Ms. Sheri L. Franz, Dominion Resources Services, Inc.



PROJECT LOCATION MAP
FRANKLIN 20" STORAGE PIPELINE PROJECT

DOMINION EAST OHIO

DRAWN BY: MDO
 CHECKED: JCB
 DATE: 03/20/2008
 APPROVED:

LEGEND

— PROPOSED CENTERLINE

0 0.5 1 2 Miles

PROJECT LOCATION

SUMMIT
 AND WAYNE COUNTIES, OHIO

REFERENCE: USGS 7.5'
 QUADRANGLES,
 DOYLESTOWN AND
 CANAL FULTON, OHIO.

Mishelle L. Beercheck

From: Mitch, Brian [Brian.Mitch@dnr.state.oh.us]
Sent: Monday, May 12, 2008 10:06 AM
To: Mishelle L. Beercheck
Subject: 08-0099; Franklin 20" Storage Pipeline Project
Attachments: oledata.mso; image001.gif; 08-0099map1.jpg; 08-0099map2.jpg



ODNR COMMENTS TO Ms. Jennifer C. Broush, GAI Consultants, 385 East Waterfront Drive, Homestead, Pennsylvania, 15120.

Location: The site is located in Sections 23 and 24, Chippewa Township, Wayne County and Sections 25, 26, 27, 28, 29, and 30, Franklin Township, Summit County, Doylestown and Canal Fulton Quadrangles.

Project: The proposed project involves the construction of 8.7 miles of 20" natural gas pipeline. The proposed pipeline follows an existing pipeline right-of-way throughout nearly its entire length, minimizing disturbance to the surrounding area. Disturbance will be limited to a maximum 100" radius around the proposed centerline. Existing access roads and storage areas will be used and will be located within the one-half-mile study area being requested.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Rare and Endangered Species: The ODNR, Division of Natural Areas and Preserves, Natural Heritage Database contains records of rare species near the proposed project. *Rallus limicola*, Virginia Rail, has an Ohio Status of Special Concern and was last observed at this location in June of 1986. *Porzana carolina*, Sora, has an Ohio Status of Special Concern and was last observed at this location in June of 1986. The map included with this message displays the locations of records.

There are no unique natural features within the proposed project and there are no state nature preserves, wildlife areas, or scenic rivers in the vicinity of the site. However, the site is near the Portage Lakes State Park. The red line on the map represents the approximate boundary of the park.

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.

Fish and Wildlife: The ODNR, Division of Wildlife (DOW) has the following comments.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: Shagbark hickory (*Carya ovata*), Shellbark hickory (*Carya laciniosa*), Bitternut hickory (*Carya cordiformis*), Black ash (*Fraxinus nigra*), Green ash (*Fraxinus pennsylvanica*), White ash (*Fraxinus americana*), Shingle oak (*Quercus imbricaria*), Northern red oak (*Quercus rubra*), Slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), Eastern cottonwood (*Populus deltoides*), Silver maple (*Acer saccharinum*), Sassafras (*Sassafras albidum*), Post oak (*Quercus stellata*), and White oak (*Quercus alba*). Indiana bat habitat consists of suitable trees that include dead and dying trees of the species listed above with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees of the species listed above with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. If suitable trees occur

within the project area, these trees must be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between September 30 and April 1. If suitable trees must be cut during the summer months of April 2 to September 29, a net survey must be conducted in May or June prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species.

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

The project is within the range of the bobcat (*Lynx rufus*), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The portion of the project located in Wayne County is within a county where current records exist for the Eastern massasauga (*Sistrurus catenatus*), a state endangered and a Federal candidate snake species. Due to the location of this project, the DOW believes the project is not likely to impact this species. However, if an Eastern massasauga is encountered during construction of the project, work should immediately be stopped, and the DOW should be contacted.

The portion of the project located in Wayne County is also within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if wetland habitat is located near the project area, construction must be avoided during the species' nesting period of May 1 to July 31. If no wetland habitat is in the vicinity of the project area, the project is not likely to impact this species.

The project area in Wayne County is also within the range of the trumpeter swan (*Cygnus buccinator*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if wetland habitat is located near the project area, construction must be avoided during the species' nesting period of May 1 to August 1. If no wetland habitat is in the vicinity of the project area, the project is not likely to impact this species.

Additionally, the portion of the project located in Wayne County is within the range of the sandhill crane (*Grus canadensis*), a state endangered species. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if grassland, prairie, or wetland habitat is in the vicinity of the project, construction must not occur during the species' nesting period of April 1 to September 1. If this habitat is not present near the project area, the project is not likely to have an impact on this species.

The portion of the project located in Wayne County is within the range of the Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered amphibian. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from that area. Therefore, if the project proposes to impact riparian corridor habitat, a survey conducted by an approved herpetologist is required to determine the presence or absence of the species.

The portion of the project located in Summit County is within the range of the elfin skimmer (*Nannothemis bella*), a state endangered dragonfly, the racket-tailed emerald (*Dorocordulia libera*), a state endangered dragonfly, and the chalk-fronted corporal (*Ladona julia*), a state endangered dragonfly. Due to the mobility of these species, the project is not likely to impact these species.

The portion of the project located in Summit County is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The portion of the project located in Summit County is also within the range of the golden-winged warbler (*Vermivora chrysoptera*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if shrub-dominated habitat such as successional fields, woodland edges, and clearings are present within the project area, construction must not occur during the species' nesting period of May 15 to July 15. If this successional habitat is not present, the project is not likely to impact this species.

The Natural Heritage Database contains records near the proposed project for the Virginia rail (*Rallus limicola*), a state bird species of special concern, and the sora (*Porzana carolina*) a state bird species of special concern. Due to the status of these species, the date of the records, and the type of work proposed, the DOW believes the project is not likely to impact this species.

Parks and Recreation: The ODNR, Division of Parks and Recreation has the following comments.

By the information provided it appears the pipeline *may* cross the boundary line for Portage Lakes State Park. The local contact is Regional Park Manager Bruce Carpenter; he can be contacted at 330-644-2220 for local questions or concerns.

If this project does cross state park land and/or water, a real estate agreement will need to be created. The agreement process should be started well in advance of the project start date. The agreement must be fully executed prior to work on the Division's land or waters. The Division of Parks and Recreation's Real Estate Manager is Mr. Kim Caris; Mr. Caris can be reached at 614-265-6514.

The Division expects that all appropriate construction and installation BMP's are implemented.

ODNR appreciates the opportunity to provide these comments. Please contact Brian Mitch at (614) 265-6378 if you have questions about these comments or need additional information.

Brian Mitch, Environmental Review Manager
Ohio Department of Natural Resources
Environmental Services Section
2045 Morse Road, Building C-4
Columbus, Ohio 43229-6693
Office: (614) 265-6378
FAX: (614) 267-4764
brian.mitch@dnr.state.oh.us

Mishelle L. Beercheck

From: Jenkins, Becky [Becky.Jenkins@dnr.state.oh.us]
Sent: Thursday, June 12, 2008 10:12 AM
To: Mishelle L. Beercheck
Subject: RE: 08-0099; Franklin 20" Storage Pipeline Project - Habitat Assessment
Attachments: image001.gif

Mishelle:

We do not object to the bird habitat assessments being done by the individuals you have selected. We do not have the same type of required list for bird species assessments as we do for reptiles and amphibians. Thanks for checking.

Becky Jenkins

Becky Jenkins, Environmental Specialist
Ohio Department of Natural Resources
Division of Wildlife
Fish Management and Research
Stream Conservation & Environmental Assessment Unit
2045 Morse Rd., Building G
Columbus, OH 43229-6693
Office:(614)265-6631
FAX:(614)262-1143
becky.jenkins@dnr.state.oh.us

-----Original Message-----

From: Mishelle L. Beercheck [mailto:m.beercheck@gaiconsultants.com]
Sent: Thursday, June 12, 2008 9:39 AM
To: Jenkins, Becky
Cc: Mitch, Brian; Navarro, John; Jennifer C. Broush; Stephen E. Gould
Subject: RE: 08-0099; Franklin 20" Storage Pipeline Project - Habitat Assessment

Becky,

Thank you for your feedback. We have contacted Greg Lipps from the list of herpetologists to coordinate the Eastern hellbender habitat assessment. Also mentioned in your initial comments are four endangered bird species(American bittern, Trumpeter swan, Sandhill crane, and Golden-winged warbler). Does your office require certified personnel to perform these habitat assessments? With your approval, we would like to use Matthew White, with support from Anthony Baumert and Henry Schumacher, to perform the assessments. Matt has experience in both wetland identification and habitat data collection for bird species, and Anthony and Henry have experience in wetland and plant identification as well. Please let us know if you approve of our using these individuals to perform the bird habitat assessments.

Thanks for your help.

Mishelle

Mishelle L. Beercheck
Environmental Specialist

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From: Jenkins, Becky [mailto:Becky.Jenkins@dnr.state.oh.us]
Sent: Thursday, June 12, 2008 8:46 AM
To: Mishelle L. Beercheck
Cc: Mitch, Brian; Navarro, John
Subject: RE: 08-0099; Franklin 20" Storage Pipeline Project - Habitat Assessment

Mishelle:

Your e-mail to Brian Mitch was forwarded to me for response. For habitat assessments for the Eastern hellbender, the Ohio Department of Natural Resources, Division of Wildlife asks that you use the herpetologists shown on the attached list. Of the resumes you provided for review, we are familiar with Steven Crescenzo and have no objection with him doing a habitat assessment for the Eastern hellbender.

Becky Jenkins

Becky Jenkins, Environmental Specialist
Ohio Department of Natural Resources
Division of Wildlife
Fish Management and Research
Stream Conservation & Environmental Assessment Unit
2045 Morse Rd., Building G
Columbus, OH 43229-6693
Office:(614)265-6631
FAX:(614)262-1143
becky.jenkins@dnr.state.oh.us

-----Original Message-----

From: Mishelle L. Beercheck [mailto:m.beercheck@gaiconsultants.com]
Sent: Friday, May 23, 2008 10:05 AM
To: Mitch, Brian
Cc: Jennifer C. Broush; Stephen E. Gould; Sheri.L.Franz@dom.com;
'Scott.A.Hallam@dom.com'
Subject: 08-0099; Franklin 20" Storage Pipeline Project - Habitat Assessment

Brian,

We thank you for your assistance on the Franklin 20-inch Pipeline Project over the past few weeks. We would like to begin coordinating the habitat assessments requested in your letter of response. Attached for your review are resumes of staff we propose to utilize to perform the assessments. Please let us know if these staff meet your Department's approval.

Please feel free to call me or Jennifer Broush (ext. 1438) if you have questions or need additional information.



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Date: June 23, 2008

Project/Admin. No.: C070939.00

Call From: Matt White Tel No.: 1513

Company: GAI

Call To: Becky Jenkins Tel No.: 614-265-6631

Company: ODNR

Subject: Habitat Assessment and Bird Survey Questions

cc:

Summary of Discussion, Decisions, and Commitments:

I spoke with Beck Jenkins about the need to determine the best course of action for habitat assessments for American Bittern, Trumpeter Swan, Sandhill Crane, and Golden-winged Warbler. I spoke with her about the possibility of ruling out that the potential for habitat for the American Bittern, Trumpeter Swan, and Sandhill Crane exists in the Project area within Wayne Co. because of the absence of large bodies of water and other landscape features not found in the area that are easily distinguishable of the habitat for these species. She said that a general statement report highlighting what is present in the area along with our determination will suffice for submission. I also asked her about habitat surveys and possible concurrent presence/absence surveys for Golden-winged Warbler and she indicated that approach is a good idea based upon the time restrictions of when the species breeding period ends. I also asked Becky about how the ODNR views HDD and her answer was that an HDD is viewed as no impact. However, if the situation arises and an open—cut is required then as a safety net the area should be previously evaluated for habitat.

Telephone Log

Matthew B. White

From: Jenkins, Becky [Becky.Jenkins@dnr.state.oh.us]
Sent: Monday, June 30, 2008 8:41 AM
To: Matthew B. White
Subject: RE: Franklin 20" Storage Pipeline Project - Habitat Assessment Question

Matt:

The survey method described below sounds good. The Division of Wildlife does not object to you using this method. Thanks for checking.

Becky Jenkins

Becky Jenkins, Environmental Specialist
Ohio Department of Natural Resources
Division of Wildlife
Fish Management and Research
Stream Conservation & Environmental Assessment Unit
2045 Morse Rd., Building G
Columbus, OH 43229-6693
Office:(614)265-6631
FAX:(614)262-1143
becky.jenkins@dnr.state.oh.us

-----Original Message-----

From: Matthew B. White [mailto:m.white@gaiconsultants.com]
Sent: Thursday, June 26, 2008 4:54 PM
To: Jenkins, Becky
Subject: Franklin 20" Storage Pipeline Project - Habitat Assessment Question

Becky,

I spoke with you on Monday (6/23) regarding habitat assessment and possible presence/absence surveys for the Franklin 20-inch Storage Pipeline Project in Wayne and Summit Counties Ohio. We discussed the idea of conducting Golden-winged Warbler presence/absence surveys concurrently with habitat assessments. I am going to the Project site next week for those evaluations. I do have a question however. If it is determined that suitable Golden-winged Warbler habitat occurs along the Project route in Summit County then I will conduct presence/absence surveys. However, after a review of the literature it appears as though most Golden-winged Warbler surveys are supplemented using playbacks to elicit a response from the target species. I am emailing you to verify that the ODNR is comfortable with this survey method since it was not brought up in our conversation on 6/23. The scientific literature is in agreement that the use of playbacks will increase detection probabilities and should be used when surveying for the species. I plan on using playback methods described in the current literature with the methods described in our final report to be submitted to the ODNR.

Please let me know at your convenience. I appreciate your help and let me know if you have any questions.

Matthew B. White
Environmental Specialist

m.white@gaiconsultants.com

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Breeding Habitat Assessment and Survey for the Golden-winged Warbler (*Vermivora chrysoptera*) in Summit County, Ohio - Dominion East Ohio Gas, Franklin 20-inch Pipeline Project, Wayne and Summit Counties, Ohio

APPENDIX B
RESUMES OF SURVEY PERSONNEL

Matthew B. White

Senior Environmental Specialist

Education

B.S. Wildlife, Purdue University, 2005

M.S. Biology, Indiana University of Pennsylvania, 2008

Relevant Training/Courses

4-day 38-hour Army Corps of Engineers Wetland Delineation Training Program, Richard Chinn Environmental Training, Inc.

Ohio Rapid Assessment Method for Wetlands (ORAM) v5.0 2-day Training Course, Ohio Environmental Protection Agency

Previous Employment

Cerulean Warbler Technical Group Silviculture Study, Salt Lick, Kentucky, 2006-2007

Potawatomi Zoo, South Bend, Indiana, 2003

Summary

Mr. White specializes in environmental investigations and surveys covering streams, wetlands, water supply wells, and other natural features. Mr. White also conducts habitat assessments and surveys for threatened and endangered avian species.

Professional Experience

- Mr. White has conducted surveys for the Virginia state endangered Loggerhead Shrike (*Lanius ludovicianus*) as part of the Appalachian Power (AEP) Riverbend-Hickman 69kV electric transmission line Project in Pulaski County, Virginia
- Mr. White conducted environmental surveys and prepared permit applications for Columbia Gas Transmission Line-K Replacement Project located in Orange County, New York. Mr. White prepared necessary documentation for a NYDEC Freshwater Wetland Permit and SPDES Stormwater Permit. Mr. White also assisted with agency consultation regarding threatened or endangered species.
- Mr. White has conducted several environmental surveys and prepared permit applications (PaDEP Chapter 105 GP-5 and GP-8) for Columbia Gas of Pennsylvania. Projects included the D-500 and D-1357 Pipeline Replacement Project, D-84 Old Pittsburgh Road Pipeline Replacement Project, Frew Mill Road Pipeline Replacement Project, and Fischer Road Pipeline Replacement Project
- Environmental surveys for Columbia Gas Transmission, a NiSource Company, Ohio Storage Expansion Project. Field identification of various environmental features such as wetlands, streams, residences, water supply wells, and other natural features. Assisted with Federal Energy Regulatory Commission (FERC) environmental report and environmental assessment documentation. Mr. White also assisted with Pre-construction notification for Nationwide Permits 3 and 12.
- Field observations/investigations for Dominion Gas Transmission H-152. Field identification included various environmental features: wetlands, streams, residences, water supply wells, and other natural features.
- Field Crew Manager at the Cerulean Warbler Technical Group Silviculture Study in Salt Lick, Kentucky, responsible for hiring, training and managing a three-man crew. Responsible for data entry and data management and conducted research for the regional project. Conducted point counts, spot-mapping, foraging observations, and habitat data collection, and can consistently and independently locate Cerulean Warbler nests.
- Intern at the Potawatomi Zoo in South Bend, Indiana, working with amphibians, reptiles and mammals. Performed daily cleaning of exhibits and diet preparation, raised several species of Poison Dart Frogs, and provided exhibit creation (reptiles and amphibians).

Dennis J. Costa

Environmental Specialist

Education

B.S. Biological Sciences 2007, University of Pittsburgh

Laboratory and Related Courses

Biology 1 and 2, Ecology, General Chemistry 1 and 2, Organic Chemistry 1 and 2

Ecology, Population Biology, Writing in the Biological Sciences

Certifications

4 Day 38 Hour Army Corps of Engineers Wetland Delineation Training Program

Previous Employment

Campus Representative for Apple Computer Inc., Volt Technical Services, 2005-2007

Computer Store Sales Associate, Carnegie Mellon University, 2002-2003

Computing Services Technician, Carnegie Mellon University, 2001-2002

Professional Experience

Mr. Costa has performed wetland delineations according to the 1987 United States Army Corps of Engineers Wetlands Delineation Manual; performed functional assessments on various types of wetlands; conducted an independent original field study on soil conditions and how they affect the growth of *Phragmites australis*; took soil samples and assessed characteristics such as texture, hydrology, and reducing conditions in each horizon; compared soil samples in areas of *Phragmites* growth to areas of non-growth to conclude if soil is any indication on whether or not growth will occur; and identified wetland flora and fauna.