DOE/EA-1851D

DRAFT
ENVIRONMENTAL ASSESSMENT

For
Delphi Automotive Systems, LLC
Electric Drive Vehicle Battery and Component Manufacturing Initiative Application

September 2011

U.S. DEPARTMENT OF ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

COVER SHEET

Responsible Agency: U.S. Department of Energy (DOE)

Title: *Environmental Assessment for Delphi Automotive Systems, LLC Electric Drive Vehicle Battery and Component Manufacturing Initiative Application* (DOE/EA-1851)

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Abstract: DOE prepared this EA to evaluate the potential environmental consequences of providing a financial assistance grant under the American Recovery and Reinvestment Act of 2009 (ARRA) to Delphi Automotive Systems, Limited Liability Corporation (LLC) (Delphi). Delphi proposes to construct a laboratory referred to as the "Delphi Kokomo, IN Corporate Technology Center" (Delphi CTC Project) and retrofit a manufacturing facility. The project would advance DOE's Vehicle Technology Program through manufacturing and testing of electric-drive vehicle components as well as assist in the nation's economic recovery by creating manufacturing jobs in the United States. The Delphi CTC Project would involve the construction and operation of a 10,700 square foot (ft^2) utilities building containing boilers and heaters and a 70,000 ft^2 engineering laboratory, as well as site improvements (roads, parking, buildings, landscaping, and lighting). The engineering laboratory would house equipment for helping to validate the readiness of new products for manufacture in Delphi's Kokomo Morgan Street (KMS) facility. Delphi's KMS facility is an existing 93,000 ft^2 leased facility that Delphi would modify and equip for validating and producing advanced automotive electric drive components.

DOE's proposed action would provide approximately $89.3 million in financial assistance in a cost-sharing arrangement to Delphi. The total cost of the proposed project would be approximately $178.6 million.

This EA evaluates the environmental resource areas DOE commonly addresses in its EAs and identifies no significant adverse environmental impacts for the proposed project. The proposed project could result in beneficial impacts to the nation's energy efficiency and the local economy, and the electric vehicle components produced could contribute toward enabling significant reductions of greenhouse gases.

Availability: The draft EA is available on DOE's National Energy Technology Laboratory website at http://www.netl.doe.gov/publications/others/nepa/ea.html and at:

Kokomo-Howard County Public Library
220 N. Union Street
Kokomo, IN 46901
765-457-3242

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ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
°C	Degrees Celsius
µg/m^3	Microgram per Cubic Meter
a.m.	*ante meridiem* (i.e. before noon)
A/C	Air Conditioning
AC/DC	Alternating Current/Direct Current
ACQR 084	Wabash Valley Intrastate Air-Quality Control Region
AQCR	Air Quality Control Region
ARRA	American Recovery and Reinvestment Act of 2009
ATF	Automatic Transmission Fluid
AV	Assessed Value
BCM	Body Control Module
BMPs	Best Management Practices
CAA	Clean Air Act
CCE	Common Core Elements
CCF	100 Cubic Feet
CCSP	U.S. Climate Change Science Program
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CTC	Corporate Technology Center
CWA	Clean Water Act
CX	Categorical Exclusion
dB	Decibel
dBA	A-weighted Decibel
DBS	Delphi Business Systems
Delphi CTC Project	Delphi Kokomo, IN Corporate Technology Center
Delphi E&S	Delphi Electronics & Safety
Delphi	Delphi Corporation LLC
DNL	Day-night Average Sound Level
DOE	U.S. Department of Energy
DPSS	Delphi Product and Service Solutions
e.g.	*Exempli gratia*, for example
EA	Environmental Assessment
ECM	Engine Control Module
EDV	Electric Drive Vehicles
EERE	Energy Efficiency and Renewable Energy
EIS	Environmental Impact Statement
EMC	Electromagnetic Compatibility
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ERC	Engineering Resource Center

ESA	Endangered Species Act
ESD	Electric Static Discharge
et seq.	*et sequens,* and the following one or ones
Fab III	Integrated Circuit Fabrication Facility
FE	Federally Endangered
FONSI	Finding of No Significant Impact
FSC	Federal Species of Concern
ft	Feet
ft^2	Square Feet
gal	Gallon
GM	General Motors
GMCH	General Motors Component Holdings
HD	Harley-Davidson
HI	High Intensity Industrial
HMCC	Hazardous Material Control Committee
HVAC	Heating, Ventilation, & Air Conditioning
Hz	Hertz
i.e.	*id est,* that is
IAC	Indiana Administrative Code
IBCM	Integrated Body Control Module
IC	Indiana Code
IDEM	Indiana Department of Environmental Management
IPCC	International Panel on Climate Change
km	Kilometer
KMS	Kokomo Morgan Street
kWh	Kilowatt Hour
lbs	Pounds
LED	Light Emitting Diode
L_{eq}	Equivalent Sound Level
LLC	Limited Liability Corporation
m	Meter
MACT	Maximum Available Control Technology
ml	Milliliters
mmbtu	Million British Thermal Units
mmcf	Million Cubic Feet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NETL	National Energy Technology Laboratory
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NO_x	Nitrous Oxides
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source Pollution
NRHP	National Register of Historic Places

NSPS	New Source Performance Standards
NSR	New Source Review
NWI	National Wetlands Inventory
O_3	Ozone
OE	Original Equipment
OSHA	Occupational Safety and Health Administration
OWQ	Office of Water Quality
oz	Ounces
p.m.	*post meridiem* (i.e. after noon)
Pb	Lead
PCB	Polychlorinated Biphenyls
PM_{10}	Particulate Matter of 10 Micrometers or Less in Aerodynamic Diameter
$PM_{2.5}$	Particulate Matter Less than 2.5 Micrometers in Aerodynamic Diameter
Power Electronics	Power Electronics Development Lab
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
qt	Quarts
RCRA	Resource Conservation and Recovery Act
Recovery Act	American Recovery and Reinvestment Act of 2009, Public Law 111-5
ROI	Region of Influence
SE	State Endangered
SG	State Significant
SHEPs	Safety Health & Environmental Practices
SHPO	State Historic Preservation Office or Officer
SIP	State Implementation Plans
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
SR	State Rare
SRW	State Regulated Wetlands
SSC	State Species of Concern
ST	State Threatened
SUV	Suburban Vehicle
SWPP	Stormwater Pollution Prevention Plan
SX	State Extirpated
T&E	Threatened and Endangered
tpy	Tons per Year
TSP	Total Suspended Particles
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDHHS	U.S. Department of Health and Human Services
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VLab	Validation Lab
VOC	Volatile Organic Compounds
VT	Vehicle Technologies

1.0 INTRODUCTION

1.1 Background

The Department of Energy's (DOE) National Energy Technology Laboratory (NETL) manages the research and development portfolio of the Vehicle Technologies (VT) Program for the Office of Energy Efficiency and Renewable Energy (EERE). A key objective of the VT program is accelerating the development and production of electric drive vehicle systems in order to substantially reduce the United States' consumption of petroleum. Another of its goals is the development of production-ready batteries, power electronics, and electric machines that can be produced in volume economically to increase the use of electric drive vehicles (EDVs).

Congress appropriated significant funding for the VT program in the American Recovery and Reinvestment Act of 2009, Public Law 111-5 (Recovery Act or ARRA) in order to stimulate the economy and reduce unemployment in addition to furthering the existing objectives of the program. DOE solicited applications for this funding by issuing a competitive Funding Opportunity Announcement (DE-FOA-0000026), *Recovery Act - Electric Drive Vehicle Battery and Component Manufacturing Initiative*, on March 19, 2009. The announcement invited applications in seven areas of interest:

- Area of Interest 1 – projects that would build or increase production capacity and validate production capability of advanced automotive battery manufacturing plants in the United States.
- Area of Interest 2 – projects that would build or increase production capacity and validate production capability of anode and cathode active materials, components (e.g. separator, packaging material, electrolytes and salts), and processing equipment in domestic manufacturing plants.
- Area of Interest 3 – projects that combine aspects of Area of Interest 1 and 2.
- Area of Interest 4 – projects that would build or increase production capacity and validate capability of domestic recycling or refurbishment plants for lithium ion batteries.
- Area of Interest 5 – projects that would build or increase production capacity and validate production capability of advanced automotive electric drive component in domestic manufacturing plants.
- Area of Interest 6 – projects that would build or increase production capacity and validate production capability of electric drive subcomponent suppliers in domestic manufacturing plants.
- Area of Interest 7 – projects that combine aspects of Area of Interest 5 and 6.

The application period closed on May 19, 2009, and DOE received 119 proposals across the seven areas of interest. DOE selected 30 projects based on the evaluation criteria set forth in the funding opportunity announcement; special consideration was given to projects that promoted the objectives of the Recovery Act – job preservation or creation and economic recovery – in an expeditious manner.

This project, Delphi Kokomo, IN, was one of the 30 DOE selected for funding. DOE's proposed action is to provide $89.3 million in financial assistance in a cost-sharing arrangement with the

project proponent, Delphi Automotive Systems, Limited Liability Corporation (LLC) (Delphi). The total cost of the project is estimated at $178.6 million.

1.2 Purpose and Need for DOE Action

The overall purpose and need for DOE action pursuant to the VT program and the funding opportunity under the Recovery Act is to accelerate the development and production of various electric drive vehicle systems by building or increasing domestic manufacturing capacity for advanced automotive batteries, their components, recycling facilities, and EDV components, in addition to stimulating the United States' economy. This work would enable market introduction of various electric vehicle technologies by lowering the cost of battery packs, batteries, and electric propulsion systems for EDVs through high-volume manufacturing. DOE intends to further this purpose and satisfy this need by providing financial assistance under cost-sharing arrangements to the projects selected under this funding opportunity announcement. These projects are needed to reduce the United States' petroleum consumption by investing in alternative vehicle technologies. Successful commercialization of EDVs would support the DOE's Energy Strategic Goal of "protect[ing] our national and economic security by promoting a diverse supply and delivery of reliable, affordable, and environmentally sound energy." This project would also meaningfully assist in the nation's economic recovery by creating manufacturing jobs in the United States in accordance with the objectives of the Recovery Act.

1.3 Legal Framework

DOE has prepared this environmental assessment (EA) in accordance with the Council on Environmental Quality (CEQ) "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," codified in Title 40 of the *Code of Federal Regulations* in Parts 1500 through 1508 (40 CFR 1500-1508). These implement the procedural requirements of the National Environmental Policy Act (NEPA), found in Title 40 of the *United States Code* in Section 4321 and following sections (42 USC § 4321 *et seq*.).

The CEQ NEPA regulations specify that an EA be prepared to:

- Provide sufficient analysis and evidence for determining whether or not to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI);
- Aid in an agency's compliance with NEPA when no EIS is deemed necessary; and
- Facilitate EIS preparation when one is necessary.

Further, the CEQ NEPA regulations encourage agencies to integrate NEPA requirements with other environmental review and consultation requirements. Relevant environmental requirements are contained in other federal statutes, such as the Clean Air Act and the Clean Water Act, and their state counterparts. The following federal and state statutes and regulations are relevant to this EA. Federal and state permits that may be required are also listed.

American Recovery and Reinvestment Act

The Recovery Act is an act making supplemental appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed,

and State and local fiscal stabilization. DOE would provide financial assistance to Delphi's proposed project using Recovery Act funds.

Clean Air Act

The Clean Air Act (CAA), 42 USC § 7401 *et seq.*, establishes the National Ambient Air Quality Standards (NAAQS) developed by the U.S. Environmental Protection Agency (USEPA) for the pervasive pollutants: sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), lead (Pb), and particulate matter (both particulate matter of 10 micrometers or less in aerodynamic diameter (PM_{10}) and particulate matter less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$)). The NAAQS are expressed as concentrations of the criteria pollutants in the ambient air, the outdoor air to which the general public is exposed. The CAA also contains emission control permit programs to protect the nation's air quality and establishes New Source Performance Standards that establish design standards, equipment standards, work practices, and operational standards for new or modified sources of air emissions. Where the NAAQS emphasize air quality in general, the New Source Performance Standards focus on particular industrial categories or sub-categories (e.g., fossil fuel fired generators, grain elevators, and steam generating units). Regulations implementing CAA are found in 40 CFR Parts 50-95. Indiana has been delegated CAA authority under Title 325, Air Pollution Control Board of the Indiana Code (see http://www.in.gov/legislative/iac/iac_title?iact=325).

Clean Water Act

The Clean Water Act (CWA), 33 USC § 1251 *et seq.*, establishes a comprehensive framework of standards, technical tools, and financial assistance to address "point source" pollution from municipal and industrial wastewater discharges and "nonpoint source" pollution from urban and rural areas. Applicants for federal licenses or permits to conduct any activity that may result in a discharge to navigable waters must provide the federal agency with a state CWA Section 401 certification that the discharge would comply with applicable provisions of the CWA. CWA Section 404 establishes a permit program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), which requires point sources of pollutants to obtain permits to discharge effluents and storm water to surface waters. Regulations for implementing CWA programs are found in 33 CFR Parts 320-331 and 40 CFR Parts 400-503. Indiana has been delegated CWA authority under Title 327, Water Pollution Control Board, of the Indiana Code (see www.in.gov/legislative/iac/T03270/A00010.PDF).

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 *et seq.*, regulates the treatment, storage, and disposal of solid and hazardous wastes. RCRA sets "cradle to grave" standards for both solid waste and hazardous waste management. Certain wastes are specifically excluded because they are regulated under other statutes. Some examples are domestic sewage and septic tank waste; agricultural wastes; industrial discharges; some nuclear wastes; and mining overburden. RCRA regulations are found in 40 CFR Parts 239-282. Indiana has been

delegated RCRA authority under Title 329, Solid Waste Management Board of the Indiana Code (see www.in.gov/legislative/iac/T03290/A00010.PDF).

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC § 9601 *et seq*., also known as "Superfund," established a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA also establishes requirements for closed and abandoned hazardous waste sites, provides for the liability of persons responsible for the release of hazardous substances, and established a trust fund to pay for orphan facility cleanup and closure. Regulations for implementing CERCLA are found in 40 CFR Parts 300-312. Indiana establishes a Hazardous Substances Response Trust Fund in Indiana Code Title 13 Article 25 Chapter 4 of the Indiana Code (see http://www.in.gov/legislative/ic/code/title13/ar25/ch4.html).

Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA), 42 USC § 1001 *et seq.*, requires federal agencies to provide information on hazardous and toxic chemicals to state emergency response commissions, local emergency planning committees, and USEPA. EPCRA's goal is to provide this information to ensure that local emergency plans are sufficient to respond to unplanned releases of hazardous substances. Regulations implementing EPCRA are found in 40 CFR Parts 350-374. Indiana establishes a Local Emergency Planning and Right to Know Fund in Indiana Code Title 6, Article 6, Chapter 10 (see http://www.in.gov/legislative/ic/code/title6/ar6/ch10.pdf).

National Historic Preservation Act

The National Historic Preservation Act (NHPA), 16 USC § 470 *et seq.*, requires DOE to consult with the State Historic Preservation Officer (SHPO) prior to any construction to ensure that no historical properties would be adversely affected by a proposed project. DOE must also afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the proposed project. Regulations for implementing NHPA are found in 36 CFR 800-812.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act, 16 USC § 470aa *et seq.*, requires a permit for excavation or removal of archaeological resources from publicly held or Native American lands. The Act requires that excavations further archaeological knowledge in the public interest and that the resources removed remain the property of the United States. Regulations for implementing the Act are found in 43 CFR 7 and 36 CFR 296. Indiana establishes the authority of the Division of Historic Preservation and Archeology in Title 14 Article 21 of the Indiana Code (see http://www.in.gov/legislative/ic/code/title14/ar21/ch1.pdf_).

American Indian Religious Freedom Act

The American Indian Religious Freedom Act, 42 USC § 1996, establishes policy to protect and preserve the inherent and Constitutional right of Native Americans to believe, express, and exercise their traditional religions. The law ensures the protection of sacred locations; access of Native Americans to those sacred locations and traditional resources that are integral to the practice of their religions; and establishes requirements that would apply to Native American sacred locations, traditional resources, or traditional religious practices potentially affected by construction and operation of proposed facilities. Regulations for implementing the Act are also found in 43 CFR 7. Indiana establishes a Native American Indian Affairs Commission in Title 4 Article 4 Chapter 31.4 of the Indiana Code (see http://www.in.gov/legislative/ic/code/title4/ar4/ch31.4.html).

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act, 25 USC § 3001, directs the Secretary of the Interior to guide the repatriation of federal archaeological collections and collections that are culturally affiliated with Native American tribes and held by museums that receive federal funding. DOE would follow the provisions of this Act if any excavations associated with the proposed construction led to unexpected discoveries of Native American graves or grave artifacts. Regulations for implementing the Act are found in 43 CFR 10. Indiana establishes a Native American Indian Affairs Commission in Title 4 Article 4 Chapter 31.4 of the Indiana Code (see http://www.in.gov/legislative/ic/code/title4/ar4/ch31.4.html).

Endangered Species Act

The Endangered Species Act (ESA), 16 USC 1531 *et seq.*, establishes a national program for the conservation of threatened and endangered species of fish, wildlife, and plants, as well as the preservation of the ecosystems on which they depend. ESA Section 7 requires any federal agency authorizing, funding, or carrying out any action to ensure that the action is not likely to jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of critical habitat of such species. Regulations implementing the ESA interagency consultation process are found in 50 CFR Part 402. Indiana establishes regulatory authority of Nongame and Endangered Species Conservation in Title 14 Article 22 Chapter 34 of the Indiana Code (see http://www.in.gov/legislative/ic/code/title14/ar22/ch34.html).

Fish and Wildlife Conservation Act/Fish and Wildlife Coordination Act

The Fish and Wildlife Conservation Act, 16 USC § 2901 *et seq.*, encourages federal agencies to conserve and promote conservation of non-game fish and wildlife species and their habitats. In addition, the Fish and Wildlife Coordination Act, 16 USC § 661 *et seq.*, requires federal agencies undertaking projects affecting water resources to consult with the United States Fish and Wildlife Service (USFWS) and the state agency responsible for fish and wildlife resources. Compliance with these statutes is internalized in DOE NEPA process. Indiana's Fish and Wildlife authority is established in Title 14 Article 22 Chapter 2, Division of Fish and Wildlife (see http://www.in.gov/legislative/ic/2004/title14/ar22/ch2.pdf).

Noise Control Act

The Noise Control Act of 1972, 42 USC § 4901 *et seq.*, directs federal agencies to carry out programs in their jurisdictions to the fullest extent within their authority and in a manner that furthers a national policy of promoting an environment free from noise that jeopardizes health and welfare. This would involve complying with applicable municipal noise ordinances to the maximum extent practicable. Noise control is regulated by the Air Pollution Control Board in Title 13 Article 17 Chapter 3 of the Indiana Code (see http://www.in.gov/legislative/ic/code/title13/ar17/ch3.html).

Occupational Safety and Health Act

The Occupational Safety and Health Act, 29 USC § 651 *et seq.*, requires employers to furnish employees a place of employment that is free from recognized hazards that are causing or are likely to cause death or serious physical harm to the employees, and to comply with occupational safety and health standards promulgated by the Occupational Safety and Health Administration (OSHA). OSHA standards are implemented under regulations found in 29 CFR Parts 1900-2400. Indiana establishes Occupational Safety and Health regulatory authority in Title 22 Article 8 Chapter 1.1 of the Indiana Code (see http://www.in.gov/legislative/ic/code/title22/ar8/ch1.1.html).

Pollution Prevention Act

The Pollution Prevention Act, 42 USC § 13101 *et seq.*, establishes a national policy for waste management and pollution control that focuses first on source reduction, and then on environmentally safe waste recycling, treatment, and disposal. Three executive orders provide guidance to agencies to implement the Pollution Prevention Act: Executive Order 12873, "Federal Acquisition, Recycling, and Waste Prevention," Executive Order 13101, "Greening the Government through Waste Prevention, Recycling, and Federal Acquisition," and Executive Order 13148, "Greening the Government through Leadership in Environmental Management." The Indiana Recycling Market Development Board was established in Title 4 Article 23 Chapter 5.5 of the Indiana Code (see http://www.in.gov/legislative/ic/code/title4/ar23/ch5.5.html).

Executive Orders

A number of presidential executive orders in addition to those noted above provide additional guidance to federal agencies in developing EAs, including this EA. The most relevant of them include:

- Executive Order (EO) 11514, "Protection and Enhancement of Environmental Quality"
- EO 11988, "Floodplain Management"
- EO 12856, "Right to Know Laws and Pollution Prevention Requirements"
- EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"
- EO 13423, "Strengthening Federal Environmental, Energy, and Transportation Management"

- EO 13514, "Federal Leadership in Environmental, Energy, and Economic Performance"

Federal executive orders can be accessed at: http://www.archives.gov/federal-register/codification/.

Federal and State Permitting

The following are potentially applicable federal permitting requirements to construct and operate the proposed facilities.

- Clean Water Act, Section 401 Certification, Section 402 NPDES Permit, Section 404 Wetlands Permit, and Pretreatment Authorization for Discharge of Wastewater to Municipal Collection System, 40 CFR Parts 104-140, 403
- Clean Air Act, 40 CFR Parts 50-96
- Federal Construction General Permit, Stormwater Discharge
- Hazardous Waste Permit, Title 40 Part 270
- Major Source Construction Permits, Title V Part 70

The following are potentially applicable state permitting requirements to construct and operate the proposed facilities.

- Air Quality Permit, Indiana Department of Environmental Management
- National Pollutant Discharge Elimination System Permit, Indiana Administrative Code (IAC) 327, Section 5
- Hazardous Waste Permit, Indiana Department of Environmental Management, IAC 329 Section 3.1)

1.4 Related Projects

Table 1.4 lists related projects that were considered for cumulative impacts, due to their proximities to Delphi's proposed projects. All projects are in Howard County, Indiana. Only the U.S. 31 project would utilize federal funding.

Table 1.4. Related Projects

Project	Distance from Corporate Technology Center site	Distance from Kokomo Morgan Street Site	Project	Description
Chrysler Kokomo Transmission Plant	0.7 Miles Northwest	3.2 Miles Southwest	Transmission plant renovation	Chrysler announced May 2010 that it would invest $43 million to adapt the plant for production of the World Engine.
Chrysler Indiana Transmission Plant I	5.3 Miles Northwest	2.1 Miles Northwest	Facilities to be re-tooled and modernized	Chrysler Group announced in November 2010 that it would invest $843 million for production of a future generation front-wheel drive automatic transmission for use in future Chrysler Group vehicles.
Chrysler Indiana Transmission Plant II	4.8 Miles Northwest	1.7 Miles Northwest		
Chrysler Kokomo Casting Plant	1.0 Mile Northwest	3.1 Miles Southwest		
U.S. 31 Relocation	62.4 Miles North	58.2 Miles North	Construction of a new U.S. 31	The analysis in an Environmental Impact Study showed that relocating and upgrading U.S. 31 would solve the safety issues and the congestion issues.

Sources: (Chrysler, 2011; Chrysler, No date; IDOT, No date; Indiana Highway Ends, 2011a).

2.0 PROPOSED DOE ACTION AND ALTERNATIVES

DOE's proposed action is to provide Delphi with $89.3 million in grant funds to facilitate construction and operation of a small utilities building and a large engineering laboratory (approximately 10,000 square feet and 70,000 square feet in size, respectively) on 40 acres of existing industrial/technology park property. The proposed project would also prepare components for production as well as modify and equip an existing leased building (approximately 93,000 square feet (ft^2)) on 19 acres of existing industrial/technology park property. The proposed project would be funded through the DOE's Vehicle Technologies Program and would accelerate the development and production of electric-drive vehicle components and systems and reduce the United States' consumption of petroleum. This proposed project would also meaningfully assist in the nation's economic recovery by creating manufacturing jobs in the United States in accordance with the objectives of the Recovery Act.

DOE awarded Delphi a grant in November 2009 to retrofit their Kokomo Morgan Street (KMS) leased facility with new manufacturing equipment. DOE issued a Categorical Exclusion (CX) for the retrofitting work in December 2009, and work commenced. Delphi notified DOE of a change in project scope in July 2010 and requested that DOE allow funds to be used for construction of a 10,700 square foot utilities building containing boilers and heaters, a 70,000 square foot engineering laboratory, and site improvements (roads, parking, landscaping, and lighting) at their existing industrial campus. At the time of the request, DOE determined that a CX could not be issued for this expanded scope and initiated an Environmental Assessment to inform the decision of whether or not to provide funds for the revised project. Due to stringent time constraints for implementing projects under the Recovery Act, Delphi elected to initiate the improvements using its own funds, at risk of not receiving funding from DOE. While DOE cannot prohibit a participant from using their own funds on a project, DOE would not provide federal funds for this project until the NEPA process is completed.

2.1 Delphi's Proposed Project

The project involves the construction and installation of site improvements (roads, parking, buildings, landscaping, and lighting), which specifically includes a small utilities building containing boilers and heaters and a large engineering laboratory containing the following functional lab spaces at the Delphi Kokomo, IN Corporate Technology Center (CTC) (Delphi CTC Project) site (Figure 2.1-1). The engineering laboratory would house equipment for helping to validate the readiness of new products for manufacture in Delphi's Kokomo Morgan Street (KMS) facility. Delphi's KMS facility is an existing 93,000 ft^2 leased facility that Delphi would modify and equip for validating and producing advanced automotive electric drive components (Figure 2.1-2).

2.1.1 Power Electronics Development Lab

The objective of the Power Electronics Development Lab (Power Electronics) is to facilitate the design, build, and test of power electronics products for electric and hybrid vehicles. The Power

Electronics Lab consists of two major areas: 1) an area for power electronics components design, build, and bench test and 2) the propulsion system dynamometer test area (Renner, 2011a).

The Power Electronics component design, build, and test area would provide the capability to build, program, test, troubleshoot, and refine initial engineering hardware for inverters, converters and control modules (Renner, 2011a).

The propulsion system dynamometer test area would support the dynamic testing of fully integrated and functional electric/hybrid vehicle propulsion systems (electric drive machine, power inverter, Alternating Current/Direct Current (AC/DC) converter, energy storage system, and system controller) (Renner, 2011a).

There would be minimal waste generated in this lab. The only waste anticipated would be approximately two 55-gallon barrels per year of used antifreeze and used oil (gear lube, transmission fluid, etc.) (Renner, 2011a).

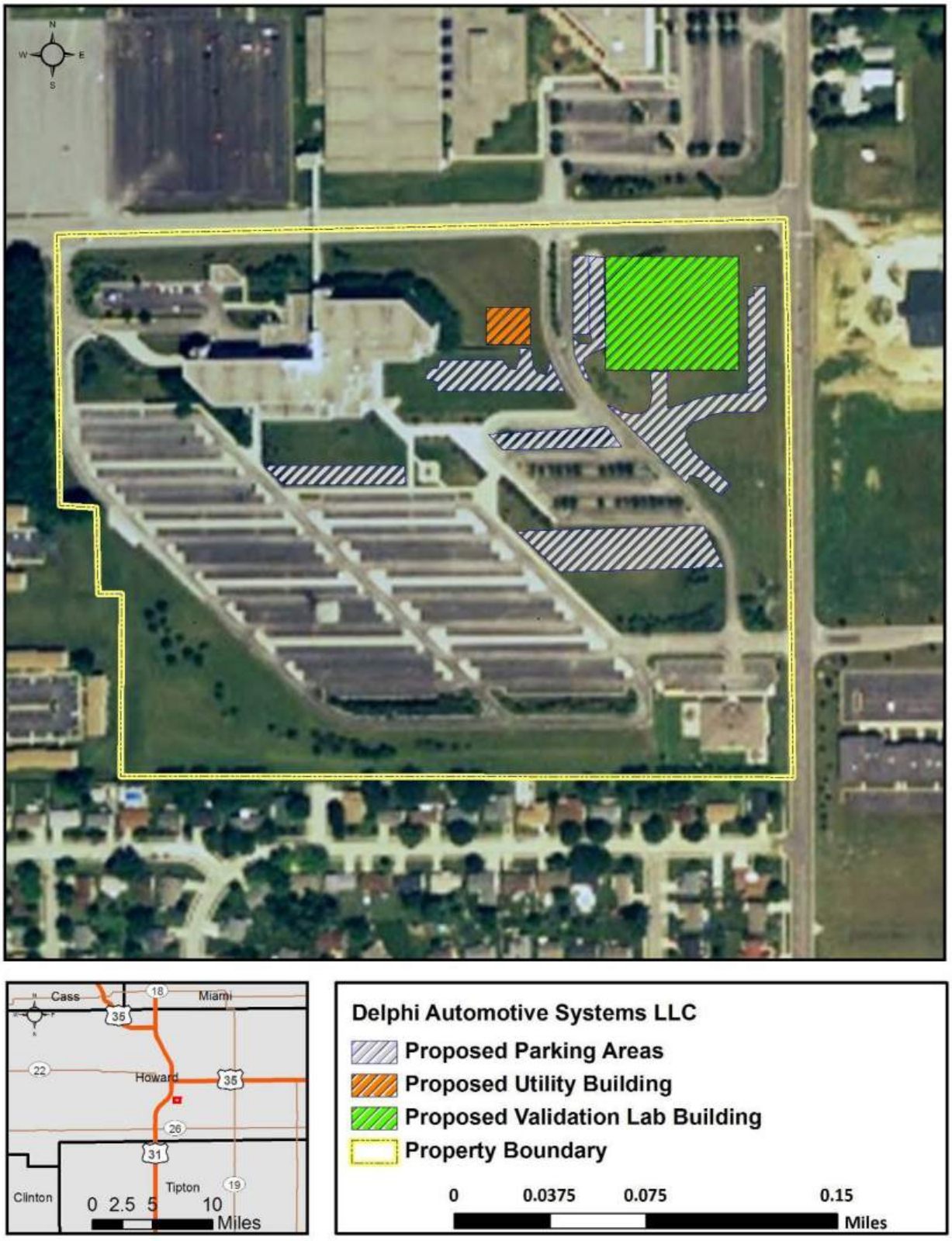


Figure 2.1-1. Delphi CTC Site Map
Source: (ESRI, 2010)

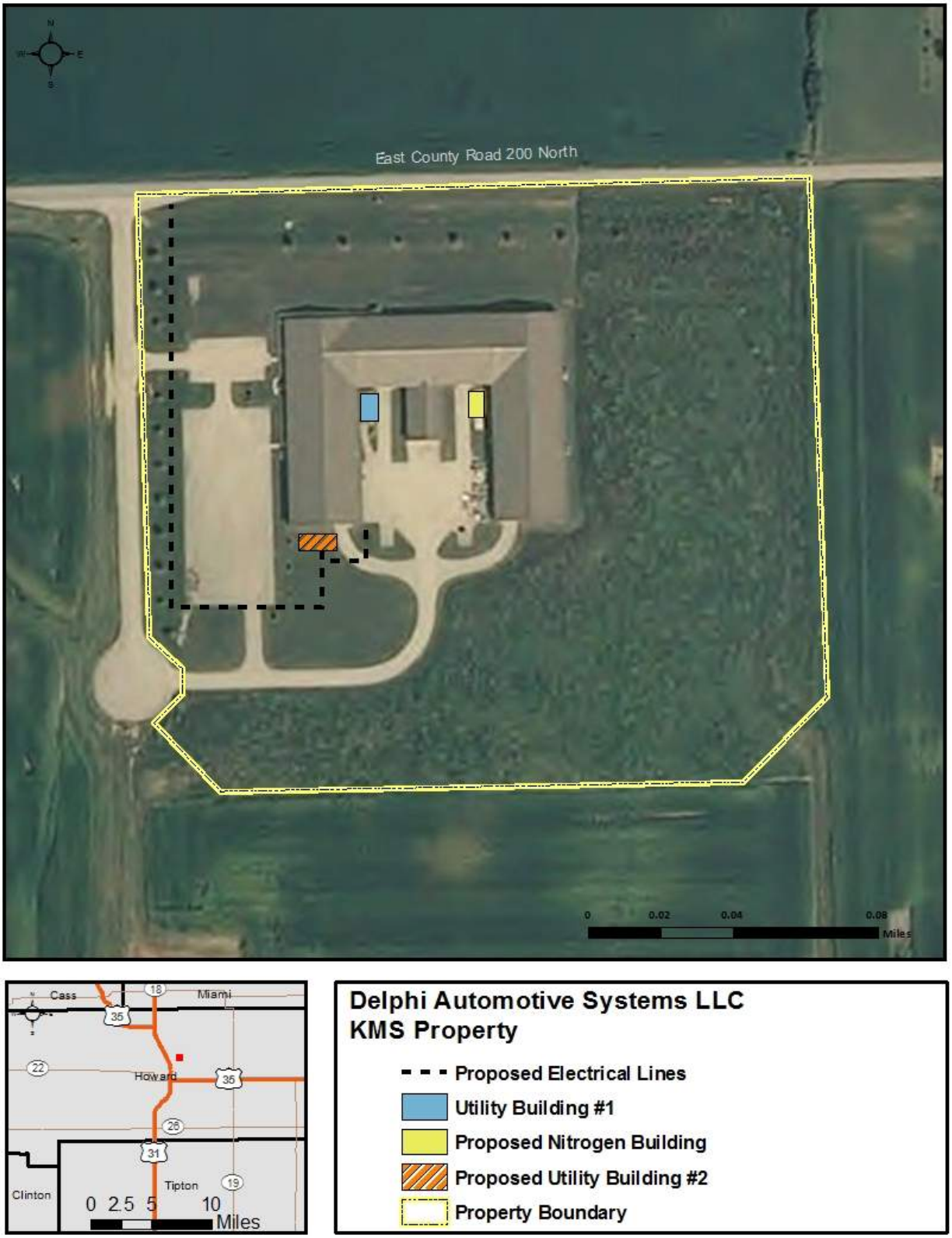


Figure 2.1-2. Delphi KMS Site Map
Source: (ESRI, 2010)

2.1.2 Validation Lab

The Validation Lab (VLab) is responsible for validating the desired product to meet negotiated customer specifications for product durability and reliability. Typical specifications include some type of environmental simulation of what the product would experience in the field. VLab has three distinct disciplines within its organization: Environmental Lab, Dynamics Lab and Electromagnetic Compatibility (EMC) Lab. The goal of all of these areas is to subject the product to testing that would reproduce real world effects and aging. VLab negotiates the requirements for testing the product with the customer, develops the hardware and software platforms to interface with the product, and performs the testing on the product (Renner, 2011b).

All of the labs contain chambers and equipment that replicate what the product would experience in the field. The Environmental Lab simulates temperature cycles, humidity, thermal shock, salt sprays/ fogs, dust, fluids and many other similar tests. The Dynamics Lab simulates vibration profiles with and without inducing environmental changes such as temperatures and humidity. They also have capabilities that center on drop testing, listening tests, and shock testing. The EMC simulates many electrical fields that can be induced by other products and high voltage sources such as power lines. This lab also performs Electric Static Discharge (ESD) and transient testing (Renner, 2011b).

Waste generated by VLab would typically result from fluids testing. These fluids simulate in testing what the product could experience in the field. In addition, the various chambers in use within the area have compressors that contain several different types of Freon. Freon loss and re-supply are tracked and recorded by area maintenance. VLab also has scrap bins for products to be recycled or disposed. Some products contain mercury in the Light Emitting Diode (LED) screens requiring disposal. Fluids generated by the lab are very minimal and would generate a volume of one 55-gallon barrel per year (See Table 2.1.2) (Renner, 2011b).

Table 2.1.2. Fluids Used in Testing per Year

Fluid/Chemical Name	Quantity	Safe Use	Label #
Mystic Hydraulic Oil	1 gallon	Metal Working Fluid	14
Westen Auto Gear Oil	1 bottle	Metal Working Fluid	14
Western Auto Automatic Transmission Fluid (ATF)	3 quart	Metal Working Fluid	14
Kendall Gear Lube 80W	1 quart	Solvent < 100 degrees Fahrenheit (°F)	2
Osborn Anti-Rust	3 can	Metal Working Fluid	14
Unilube Grease	1 tube	Metal Working Fluid	14
CO-OP Brake Fluid	5 quarts	Metal Working Fluid	14
Dex Cool Anti-Freeze	11 gallon	Metal Working Fluid	14
Ronson Butane	1 can	Compressed Gas Flammable	7
76 Guardal Motor Oil	2 quarts	Metal Working Fluid	14
Pennzoil ATF	5 gallons	Metal Working Fluid	14
Castol Syntec Oil	1quart	Metal Working Fluid	14

Table 2.1.2. Fluids Used in Testing per Year			
Fluid/Chemical Name	**Quantity**	**Safe Use**	**Label #**
Synthetic Sweat	1quart	General Use	16
Harley-Davidson (HD) Motorcycle oil 20W50	1 quarts	Metal Working Fluid	14
HD Motorcycle synthetic oil 20W50	1 quart	Metal Working Fluid	14
Power Steering Fluid	1 quart	Metal Working Fluid	14
Dupli-Color Undercoat	1 can	Solvent < 100F	2
Peak Anti-Freeze	1 gallon	Metal Working Fluid	14
3 in 1 oil	1 can	Metal Working Fluid	14
Gunk Super Oil (Household Oil)	1 can	Metal Working Fluid	14

2.1.3 Proto Lab

The Proto Lab builds engineering development units for all of the Delphi-Electronics & Safety (Delphi E&S) product lines. Processes include surface mount, sticklead hand placement, manual final assembly, and test (Renner, 2011c).

2.1.4 DPSS OE Service Test Development Lab

The objective of the Delphi Product and Service Solutions (DPSS) Original Equipment (OE) Service Test Development Lab is to design, build, and implement remanufacturing test services for a wide variety of products including audio; Powertrain Engine Control Module (ECM); Heating, Ventilating, and Air Conditioning (HVAC); Body Control Module (BCM); and Integrated Body Control Module (IBCM) products. The lab provides hardware and software for testing these products in the partnered remanufacturing shops (Renner, 2011d).

The lab is a singular space but is divided into four main areas: audio test development, Powertrain/BCM/HVAC development, soldering and fabrication, sample/spare parts/equipment storage (Renner, 2011d).

There is no waste that must be handled by any special means other than an occasional purge of samples, which are palletized and sent offsite for disposal. The only chemicals in use are very small quantities of Isopropyl Alcohol, Solder Flux, Blue Shower Tech Spray, and water (Renner, 2011d).

2.1.5 Air Emissions Equipment

Table 2.1.5 below summarizes the equipment having air emissions contained within the proposed facilities.

Table 2.1.5. Facilities Air Emissions Equipment List			
Room Number	**Equipment**	**Fuel Throughput**	**Emissions**
301	Cleever Brooks CBLE300HP Package Boilers (2)	12.2 Million British Thermal Units (mmbtu)/hour	141 million cubic feet (mmcf)/year

Table 2.1.5. Facilities Air Emissions Equipment List			
Room Number	**Equipment**	**Fuel Throughput**	**Emissions**
302	Natural Gas-fired Unit Heaters (4)	0.06 mmbtu/year	1.33 mmcf/year
401	Wave Solder and Prototype Lab	NA	1.04 tons/year Volatile Organic Compounds (VOC)
410	Validation Lab Test Chambers	NA	NA
411	Validation Lab Salt Bath	NA	NA
420	Validation Lab Shakers (8)	NA	NA
430	Dyne Lab Paint Hood	NA	0.72 tons/year VOC

Note: NA means not applicable. Source: (Renner, 2011e).

2.1.6 Kokomo Morgan Street

Delphi's KMS facility is an existing 93,000 ft^2 leased facility that Delphi would modify and equip for validating and producing advanced automotive electric drive components. Table 2.1.6 below summarizes the manufacturing process modifications that would occur at the KMS facility.

Table 2.1.6. Kokomo Morgan Street Manufacturing Modifications		
Functional Area	**Manufacturing Process**	**Description**
Electronic components and boards	Auto board up loader	Electronic components automatically placed on the board
Lead-free solder paste	Solder paste application	Automatic solder paste application on board through stencil
Energy (electricity)	Reflow oven	Boards placed in an electrical oven at 300°F
None	Inspection	Visual Inspection
Electronic components	Stick Lead Insertion	Electronic components automatically placed on the board
Lead-free solder bars, Flux solder application	Selective wave solder	Flux applied on printed circuit board followed by solder application
Coating	Conformal coating	Conformal coat sprayed on the Polychlorinated Biphenyls (PCB)
Adhesive	Adhesive application	Automatic adhesive application
Energy (electricity)	Curing	Product placed in a curing oven
Water, aqueous cleaner, housing	Housing cleaning	Aluminum housing cleaned to remove metal dust
PCBs and Aluminum Case	Circuit board in housing	Final assembly
Energy (electricity)	Friction welding	Final assembly
None	Screw fastening	Final assembly
None	Functional test	Final test
Packaging material	Scan, pack and ship	Product packed for shipment

Source: (Delphi, 2010a)

Delphi would construct two small pole barn-type buildings with concrete slab floors. Power Building #2 (25 feet (ft) x 45 ft) would be built on an existing landscaped grass area located south of the west wing of the existing facility. The Nitrogen Building (18 ft x 25 ft) would be built on an existing concrete slab located west of the east wing of the existing facility. A new utility company underground power feed line would be installed to the new transformers in

Power Building #2. Air-cooled chillers would also be located inside Power Building #2 (Delphi, 2010a).

2.2 Alternatives

DOE's alternatives to this project consist of the 45 technically acceptable applications received in response to the Funding Opportunity Announcement, *Recovery Act - Electric Drive Vehicle Battery and Component Manufacturing Initiative.* Prior to selection, DOE made preliminary determinations regarding the level of NEPA review based on potentially significant impacts identified in reviews of acceptable applications. DOE conducted these preliminary environmental reviews pursuant to 10 CFR 1021.216, although a variance to certain requirements in that regulation was granted by the Department's General Counsel (74 Federal Register 30558, June 26, 2009). These preliminary NEPA determinations and reviews were provided to the selecting official, who considered them during the selection process.

Because DOE's proposed action is limited to providing financial assistance in cost-sharing arrangements to projects submitted by applicants in response to a competitive funding opportunity, DOE's decision is limited to either accepting or rejecting the project as proposed by the proponent, including its proposed technology and selected sites. DOE's consideration of reasonable alternatives is therefore limited to the technically acceptable applications and a no-action alternative for each selected project.

2.3 No-Action Alternative

Under the no-action alternative, DOE would not provide funds to the proposed project. As a result, this project would be delayed as Delphi looks for other funding sources to meet their needs, or abandoned if other funding sources are not obtained. Furthermore, acceleration of the development and production of various electric drive vehicle systems would not occur or would be delayed. DOE's ability to achieve its objectives under the VT program and the Recovery Act would be impaired.

In order to allow a comparison between the potential impacts of a project as implemented and the impacts of not proceeding with a project, DOE assumes that if it were to decide not to provide financial assistance, the project would not proceed. If a project were to proceed without DOE's financial assistance, the potential impacts would be essentially identical to those under DOE's action alternative (i.e., providing assistance that allows the project to proceed).

2.4 Comparison of Impacts

Table 2.4 below compares impacts of Delphi's proposed project and the no-action alternative.

Table 2.4. Comparison of Impacts		
Resource	**No-Action Alternative**	**Delphi's Proposed Project**
Air Quality	No impact	Short- and long-term minor adverse effects would be expected. Short-term effects would be due to emissions from construction activities. Long-term effects would be due to emissions from two new Cleaver Brooks boilers, four natural gas fired heaters, and small amounts of VOC emissions from other laboratory processes.
Geology and Soils	No impact	Geology: The construction may include excavation to a standard depth to create the foundation of the buildings. This excavation would impact subsurface geology, but the effects would be minor due to the relatively small size of the construction compared to the footprint of the Delphi property. Soils: The impacts to soils by the construction of the utility and lab buildings would be expected to be below the significance threshold. If best management practices are applied and the SWPP Plan is implemented, impacts to soils from parking lot construction would be expected to be below the threshold of significance. Impacts from the staging areas and access roads would be expected to remain below the threshold of significance.
Wetlands	No impact	With the implementation of construction and post-construction Best Management Practices (BMPs), Delphi's proposed project would be below the significant threshold.
Terrestrial Vegetation	No impact	No grading would occur on the forested/shrub wetland, and BMPs would be used to minimize any impact from an increase in impervious surfaces. Disturbed areas around the new facility would be landscaped with native vegetation. Impacts to vegetation would be below the significance threshold.
Wildlife	No Impact	Impacts to wildlife due to Delphi's proposed project would be minimal due to the lack of suitable habitat in the project area. Mobile species would disperse to adjacent habitat. Small, less mobile species may suffer mortality during workspace clearing and grading, but these impacts would not be significant to the population as a whole. These impacts would be localized and limited to the immediate area of the project site.
Socioeconomic Resources	Lost opportunity for beneficial economic impact	Delphi's proposed project would not require an influx of workers and employees that could increase the population, change the demographics of the project area, or potentially overburden finite community resources, such as schools, housing, health facilities, or law enforcement capabilities. Therefore, impacts from implementing this alternative would be beneficial but less than the significance threshold.
Environmental Justice	No Impact	Implementation of Delphi's proposed project would result in beneficial socioeconomic impacts to all populations resident in Kokomo City and would not expose any populations to any adverse environmental effects, as described in this EA. Therefore, implementation of this alternative would increase economic activity and would not be expected to expose low-income populations to any disproportionately high or adverse environmental or social impact.
Infrastructure/ Utilities	No impact	The project would not noticeably affect or disrupt the normal or routine functions of public institutions, roads, electricity, and other public utilities and services in the project area. There would be limited potential to alter or disturb power or other infrastructure services to the area because of Delphi's proposed project. Therefore, overall impacts would be less than the significance threshold.

Table 2.4. Comparison of Impacts		
Resource	**No-Action Alternative**	**Delphi's Proposed Project**
Noise	No impact	Short-term minor and long-term negligible adverse effects would be expected from implementing Delphi's proposed project. Short-term effects would be due to noise from construction activities. Long-term effects would be due to minute changes in traffic patterns.
Human Health and Safety	No impact	With implementation of proper safety procedures, the impact to human health and safety would be minimal. Appropriate adherence to regulations would minimize the risks present with project implementation. Therefore, the overall impact to human health and safety would not be expected to exceed the significance threshold.
Waste Management	No impact	The action, along with implementation of BMPs, would not cause air, water, or soil to be contaminated with hazardous material that poses a threat to human or ecological health and safety. Overall impacts to waste management from implementing this alternative would be expected to be less than the significance threshold.
Climate and Sustainability	No impact	The direct effects of this alternative are likely to be adverse, though the indirect effects for the nation would be significantly favorable. Taken together, these results do not reach or exceed the threshold level of significance.

2.5 Issues Considered But Dismissed from Further Analysis

The Purpose and Need section above highlighted the importance of the overall program of evaluating EDV as one tool among many to address VT and Recovery Act objectives while providing this nation with a secure energy future and job stability. Potential impact issues typically associated with the preparation of EAs were reviewed. Because of the lack of potential impact to certain issues due to the specific characteristics of Delphi's proposed project, the following issues were considered but dismissed from detailed analysis:

Water Resources/Surface Water

The Delphi sites involve improvements that would be made entirely within the footprint of the existing facility. Within the footprint, there are no surface water bodies. The distance to the nearest surface water body and the relatively small size of the project would produce negligible impacts on water resources. Therefore, impacts to water resources are dismissed from further analysis.

Groundwater

Since the water supplies would be from a public source and construction is limited to near-surface activity, groundwater sources would not be affected (Delphi, 2010a; Renner, 2011f). Therefore, impacts to groundwater were dismissed from further analysis.

Floodplains

Activities at Delphi Automotive Systems associated with the proposed facility extension would not occur within the 100-year floodplain of Kokomo Creek (Finch, 2011). As such, the

implementation of Delphi's proposed project would have no impact on floodplains and can be dismissed from further analysis.

Land Use/Zoning and Parks and Recreation

Activities at the Delphi sites associated with the proposed project would not cause land use and zoning to change from its current designation. Delphi's proposed project is zoned HI (High Intensity Industrial); thus, the site meets all zoning requirements set forth by the city of Kokomo and Howard County; meaning current land use for this site is industrial (Trobaugh, 2011). The nearest park to Delphi Kokomo is the Kokomo Park and Recreation Department's Highland Park, which is 3.3 miles (5.3 kilometers (km)) northwest (ESRI, 2010). Considering the distance to the nearest park, the proposed project is unlikely to affect parks and recreation. As such, the implementation of the proposed project would have no impact on current land use or zoning as well as parks and recreation and can be dismissed from further analysis.

Cultural Resources

There would be ground disturbance with the project. However, all construction activities would occur at an existing industrial site and in disturbed locations, which reduces the probability of discovering or disturbing previously unknown cultural resources. Further, no known eligible or listed National Register of Historic Places (NRHP) sites exist within one mile of Delphi's proposed project. The closest NRHP site to the CTC location is Frederick Youngman House, which is 1.4 miles northwest. The closest NRHP site to the Morgan Street KMS location is Kokomo High School and Memoriam Gymnasium 2, which is 1.7 miles southwest (NRHP, No date). The closest Native American reservation is the Isabella Indian Reservation, and it is about 220 miles from both sites to the north in Michigan. The closest cemetery to the CTC site, Crown Point Cemetery, is 2.2 miles northwest. The closest cemetery to the Morgan Street KMS, Memorial Park Funeral Home and Cemetery, is 0.95 miles to the southwest (ESRI, 2010).

Considering the above factors, it is unlikely that cultural resources would be disturbed; therefore, potential impacts to cultural resources have been eliminated from further analysis.

The SHPO as well as relevant Native American Tribes have been contacted for any possible concerns regarding this project (Appendix C and D). Their concerns, if any, would be incorporated into the Final EA. Should any cultural resources be discovered during construction, work in the area would cease, and the discovery would be reported immediately to the SHPO and any relevant Native American Tribes.

Visual Resources

New buildings constructed in this project would be built within an industrial/technology park setting that contains many other developments and buildings, owned by the same company. New buildings and parking lots would be built in areas that are currently man-made lawns, which would not result in change in the visual character of the area, since the location is already heavily developed. The buildings are comparable in size and structure to other buildings within this development. Any change in visibility or traffic would be considered in their relevant sections

(4.1: Air Quality and 4.8: Infrastructure and Utilities). It is expected, therefore, that this action would not permanently or significantly change the visual landscape in a way that is objectionable to local residents or visitors.

3.0 THE ENVIRONMENTAL ANALYSIS APPROACH

This chapter describes how the environmental review team analyzed the potential impacts of this Delphi's proposed project (i.e., the building and operation of the new engineering lab and the improvements to the existing KMS). Chapter 4 provides a description of the affected environment and the potential environmental effects of Delphi's proposed project and the no-action alternative.

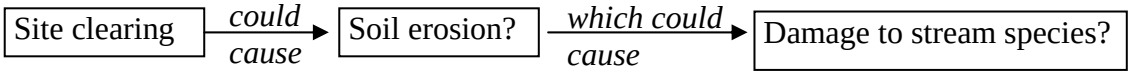
3.1 Approach to the Analysis

An EA is intended to be a clear, focused analysis of impacts. It is not intended to be merely a compilation of encyclopedic information about the project or about the environment. Accordingly, the environmental review team used a systematic approach to identifying, and then answering the relevant impact questions.

The initial step was to develop a detailed description of the components of the process to be used at the proposed sites to study the potential of furthering VT and Recovery Act objectives. This description was presented in Chapter 2.

For each project component (e.g., construction of the facility), the team sought to identify all the types of direct effects which that activity could cause on relevant environmental resources. For example, clearing a site of vegetation could cause soil erosion. In doing this preliminary identification of the types of impacts that potentially could occur, the team drew upon their experience with previous projects.

For each potential direct effect, the team then sought to identify the potential indirect effects on other environmental resources. For example, soil erosion could cause sedimentation in nearby streams, which could in turn harm the fish and other species in the stream.



This served as the framework of the analysis of impacts. That is, the team focused their efforts on answering these questions as to whether these effects would in fact occur, and if so, how extensive, how severe, and how long lasting they would be. This was then compared to the significance levels found in Table 3.2 below.

3.2 Analysis of Significance

The team used a systematic process to evaluate the importance, or significance, of the predicted impacts. This process involved comparing the predictions to the significance criteria established by the team and set out below in Table 3.2. These significance criteria were based on legal and regulatory constraints and on team members' professional technical judgment.

Table 3.2. Impact Significance Thresholds	
Resource Area	**Impact Significance Thresholds** **An impact would be significant if it EXCEEDS the following conditions.**
Air Quality	The project would not produce emissions that would exceed applicability thresholds, be regionally significant, or contribute to a violation of any federal, state, or local air regulation.
Geology and Soils	Any changes in soil stability, permeability, or productivity would be limited in extent. Full recovery would occur in a reasonable time*, considering the size of the project. Mitigation, if needed, would be simple to implement.
Wetlands	Any impacts to wetlands would be confined to the immediate project area and would not cause any regional impacts.
Terrestrial Vegetation	Any changes to native vegetation would be limited to a small area and would not affect the viability of the resources. Full recovery would occur in a reasonable time, considering the size of the project and the affected resource's natural state. Mitigation, if needed, would be simple to implement.
Wildlife	Any changes to wildlife would be limited to a small portion of the population and would not affect the viability of the resource. Full recovery would occur in a reasonable time, considering the size of the project and the affected species' natural state.
Threatened or Endangered Species	Any effect to a federally listed species or its critical habitat would be so small that it would not be of any measurable or perceptible consequence to the protected individual or its population. This negligible effect would equate to a "no effect" determination in U.S. Fish and Wildlife Service terms.
Socioeconomic Resources	Changes to the normal or routine functions of the affected community are short-term or do not alter existing social or economic conditions in a way that is disruptive or costly to the community.
Environmental Justice	Neither minority nor low-income groups within the affected community would experience proportionately greater adverse effects than other members of the community.
Infrastructure/Utilities	The project would not noticeably affect or disrupt the normal or routine functions of public institutions, roads, electricity, and other public utilities and services in the project area.
Noise	Noise levels in the project area would not exceed ambient noise level standards as determined by the federal, state, and/or local government.
Human Health and Safety	The project, with current and updated safety procedures, would pose no more than a minimal risk to the health and safety of on-site workers and the local population.
Waste Management	The action, along with planned mitigation measures, would not cause air, water, or soil to be contaminated with hazardous material that poses a threat to human or ecological health and safety.
Climate and Sustainability	The project would comply with EO 13514.

* Recovery in a reasonable time: Constant, sustainable improvement is apparent and measurable when the site is routinely observed, and full recovery is achieved over a period of no more than several years.

4.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

4.1 Air Quality

4.1.1 Description

The USEPA Region 5 and the Indiana Department of Environmental Management (IDEM) regulate air quality in Indiana. The CAA (42 USC 7401-7671q) gives the USEPA the responsibility to establish the primary and secondary NAAQS (40 CFR Part 50) that set acceptable concentration levels for seven criteria pollutants: PM_{10}, $PM_{2.5}$, SO_2, CO, nitrous oxides (NO_x), O_3, and lead. Short-term standards (1-, 8-, and 24-hour periods) have been established for pollutants that contribute to acute health effects, while long-term standards (annual averages) have been established for pollutants that contribute to chronic health effects. Each state has the authority to adopt standards stricter than those established under the federal program; however, Indiana accepts the federal standards (Table 4.1.1). Federal regulations designate Air-Quality Control Regions (AQCRs) that are in violation of the NAAQS as nonattainment areas and those in accordance with the NAAQS as attainment areas. Howard County, (and therefore the proposed laboratory facilities) is within the Wabash Valley Intrastate AQCR 084 (40 CFR 81.218). The USEPA has designated Howard County as in attainment for all criteria pollutants (USEPA, 2011a).

The USEPA monitors levels of criteria pollutants at representative sites in each region throughout the U.S. Table 4.1.1 shows the monitored concentrations of O_3 and $PM_{2.5}$ for the past three years for monitors in both Carroll and Howard counties. No other criteria pollutants are monitored at these locations. The maximum values outlined in the table are relatively high; however, 3-year average of the annual 4th highest daily maximum 8-hour average of O_3 and the 98th percentile of 24-hour concentrations of $PM_{2.5}$ do not exceed the NAAQS; hence the attainment status.

Table 4.1.1. Air Quality Standards and Ambient Air Concentrations								
	2006		2007		2008		Federal Standards	
Pollutant	**Carroll**	**Howard**	**Carroll**	**Howard**	**Carroll**	**Howard**	**Primary**	**Secondary**
Ozone (ppm) 8-hour highest[1] 8-hour 2nd highest	0.076 0.075	*(no data)*	0.085 0.082	*(no data)*	0.069 0.068	*(no data)*	0.075	Same as Primary Standard
$PM_{2.5}$ ($\mu g/m^3$) 24-hour highest[2] 24-hour 2nd highest Annual Mean[3]	*(no data)*	30.7 29.2 12.25	*(no data)*	39.5 34.6 13.51	*(no data)*	35.3 30.4 10.78	35 - 15	Same as Primary Standard

Notes:

[1] Not to be exceeded by the 3-year average of the annual 4th highest daily maximum 8-hour average.

[2] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 $\mu g/m^3$ (effective December 17, 2006).

[3] To attain this standard, the 3-year average of the weighted annual mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15.0 $\mu g/m^3$.

Please also note that $\mu g/m^3$ is micrograms per cubic meter and ppm is parts per million.
Source: (USEPA, 2011b).

4.1.2 Effects of Delphi's Proposed Project

Short- and long-term minor adverse effects would be expected from implementing Delphi's proposed project. Short-term effects would occur due to emissions from construction activities. Long-term effects would result from emissions from two new Cleaver Brooks boilers, four natural gas fired heaters, space heaters at the KMS facility, and small amounts of VOC emissions from other laboratory processes (Krishna, 2011). These effects would not exceed the threshold of significance for this resource.

Estimated Emissions and General Conformity. The General Conformity Rules (40 CFR 93.153) require federal agencies to determine whether their action(s) would increase emissions of criteria pollutants above preset threshold levels. These *de minimis* rates vary depending on the severity of the nonattainment and geographic location. Because all areas associated with the Delphi's proposed project are in attainment for all NAAQS, the General Conformity Rules do not apply, and there are no existing regional emission budgets (40 CFR 93.153).

All direct and indirect emissions of criteria pollutants for Delphi's proposed project have been estimated and compared to the *de minimis* thresholds to determine the applicability of the general conformity rules and the level of impact under NEPA (Table 4.1.2-1). The total direct and indirect emissions associated with the following activities were accounted for:

- Constructing the new facilities,
- Personal operating vehicles for construction workers,
- Paving parking areas,
- Personal operating vehicles for permanent employees,
- Operating boilers and heater units,
- Emissions from the KMS facility, and
- CTC laboratory processes.

Based on the level of activities planned, Delphi's proposed project would be *de minimis* and not threaten the attainment status of the region. A detailed breakdown of construction and operational emissions are in Appendix A.

Table 4.1.2-1. Delphi's Proposed Project Emissions Compared to Applicability Thresholds

	Annual emissions (tons per year (tpy))							
Activity	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**Applicability threshold (tpy)**	**Would emissions exceed applicability thresholds? [Yes/No]**
Construction	14.5	23.5	3.6	<0.1	13.6	2.3	100	No
Operational	7.8	8.0	2.7	<0.1	0.6	0.6		

Note: SO_x is sulfur oxide.

Regulatory Review. The CAA, as amended in 1990, mandates that state agencies adopt and implement State Implementation Plans (SIPs) to eliminate or reduce the severity and number of violations of the NAAQS. Since 1990, Indiana has developed a core of air quality regulations that the USEPA has approved. These approvals signified the development of the general requirements of the SIP. Indiana's programs for regulating air emissions affect industrial sources, commercial facilities, and residential development activities. Regulation occurs primarily through a process of reviewing engineering documents and other technical information, applying emission standards and regulations in permit issuance, performing field inspections, and assisting industries in determining their compliance status with applicable requirements.

As part of these requirements, IDEM oversees programs for permitting the construction and operation of new or modified stationary source air emissions. IDEM air permitting is required for many industries and facilities that emit regulated pollutants. These requirements include Title V permitting of major sources, New Source Review (NSR), Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS) for selected categories of industrial sources, and the National Emission Standards for Hazardous Air Pollutants (NESHAP). An overview of the applicability of these regulations to the project is outlined in Table 4.1.2-2. Notably, emissions at the KMS facility would be so low that they would be exempt from all state and federal permitting requirements.

Table 4.1.2-2. Air Quality Regulatory Review for Proposed Stationary Sources

Title	Regulation
NSR	The potential emissions would not exceed NSR threshold and would be exempt from NSR permitting requirements; however, a state operating permit may be required.
PSD	Potential emissions would not exceed the 250-tpy PSD threshold. Therefore, the project would not be subject to PSD review.
Title V Permitting Requirements	The facility's potential to emit would be below the Title V major source threshold and would not require a Title V permit.
NESHAP	Potential Hazardous Air Pollutant emissions would not exceed NESHAP thresholds. Therefore, the use of Maximum Available Control Technology (MACT) would not be required.
NSPS	All new stationary sources would meet NSPS if required.

Proposed laboratory and utility building HVAC units would not have appreciable emissions of criteria pollutants. Emissions at the KMS facility would be primarily due to space heaters. With all new sources of fuel combustion (for example new boilers), the facility-wide NO_x potential to emit would not exceed 100 tpy. The proposed facility's current air permit would be amended to cover the new stationary sources.

Other non-permitting requirements may be required through the use of compliant practices and/or products. For the Delphi CTC site, these regulations are outlined in Title 326 Air Pollution Control Board include:

- Open Fires (326 IAC 4-1)
- Control of Emissions of VOCs from Architectural Coatings (326 IAC 8-14-1)
- Control of Emissions of VOCs from Consumer Products (326 IAC 8-15-1)

- Control of Emissions of VOCs from Adhesives and Sealants (326 IAC 8-21-2)

In addition to those outlined above, no person shall handle, transport, or store any material in a manner that may allow unnecessary amounts of air contaminants to become airborne. During construction, reasonable measures may be required to prevent unnecessary amounts of particulate matter from becoming airborne, including:

- Use of water for control of dust, the grading of roads, or the clearing of land;
- Paving of roadways and maintaining them in a clean condition;
- Covering open equipment for conveying or transporting material likely to create objectionable air pollution when airborne; and
- Promptly removing spilled or tracked dirt or other materials from paved streets.

This listing is not all-inclusive; Delphi and any contractors would comply with all applicable air pollution control regulations. Outside of these best management practices, no mitigation measures would be required for the construction and operation of the proposed project.

4.1.3 Effects of the No-Action Alternative

Selecting the no-action alternative would result in no impact to ambient air quality. No construction and no new facility operations would take place. Ambient air-quality conditions would remain as described in Section 4.1.1.

4.1.4 Cumulative Effects

The State of Indiana takes into account the effects of all past, present, and reasonably foreseeable emissions during the development of their SIPs. The states account for all significant stationary, area, and mobile emission sources in the development of these plans. Estimated emissions generated by Delphi's proposed project would be below the applicability threshold. The projects in Table 1.4 would be subject to the same type of regulations, and negligible cumulative impacts would be expected due to the types of activities proposed and the distance. Therefore, Delphi's proposed project would not contribute significantly to adverse cumulative effects to air quality.

4.2 Geology and Soils

4.2.1 Description

The site of Delphi's proposed project is located in the Central Lowland province of the Interior Plains (UDOI, 2003). More specifically within the Central Lowlands, the City of Kokomo is located in the Central Till Plain section (IGS, 2000). Historically, the geology of the region has been affected by the glacial movement and melting that occurred during the Wisconsin glacial period. The glacier that extended to Kokomo melted around 16,000 years before present. The resulting topography is mostly flat, level terrain scoured by glacier progression and retreat. Glacial erratics, which are remnant boulders and stones carried by glaciers, were left behind on much of the landscape and

are still present in the region today (IGS, 1999). From 50 to 100 feet of glacial till was deposited on the bedrock of Howard County once the glaciers receded.

The bedrock geology beneath unconsolidated glacial material in Howard County is mainly from the Silurian period, about 440 to 410 million years ago. These rocks are mostly limestone and dolomite, which are both carbonate rock types. Although carbonate rock is present as bedrock, karst topography is not present and occurs mainly south of the county (IGS, 1998).

There are three soil types found at the sites of Delphi's proposed project (Figures 4.2.1-1 and 4.2.1-2). These include Brookston silty clay loam, Crosby silt loam, and Miami silt loam, eroded.

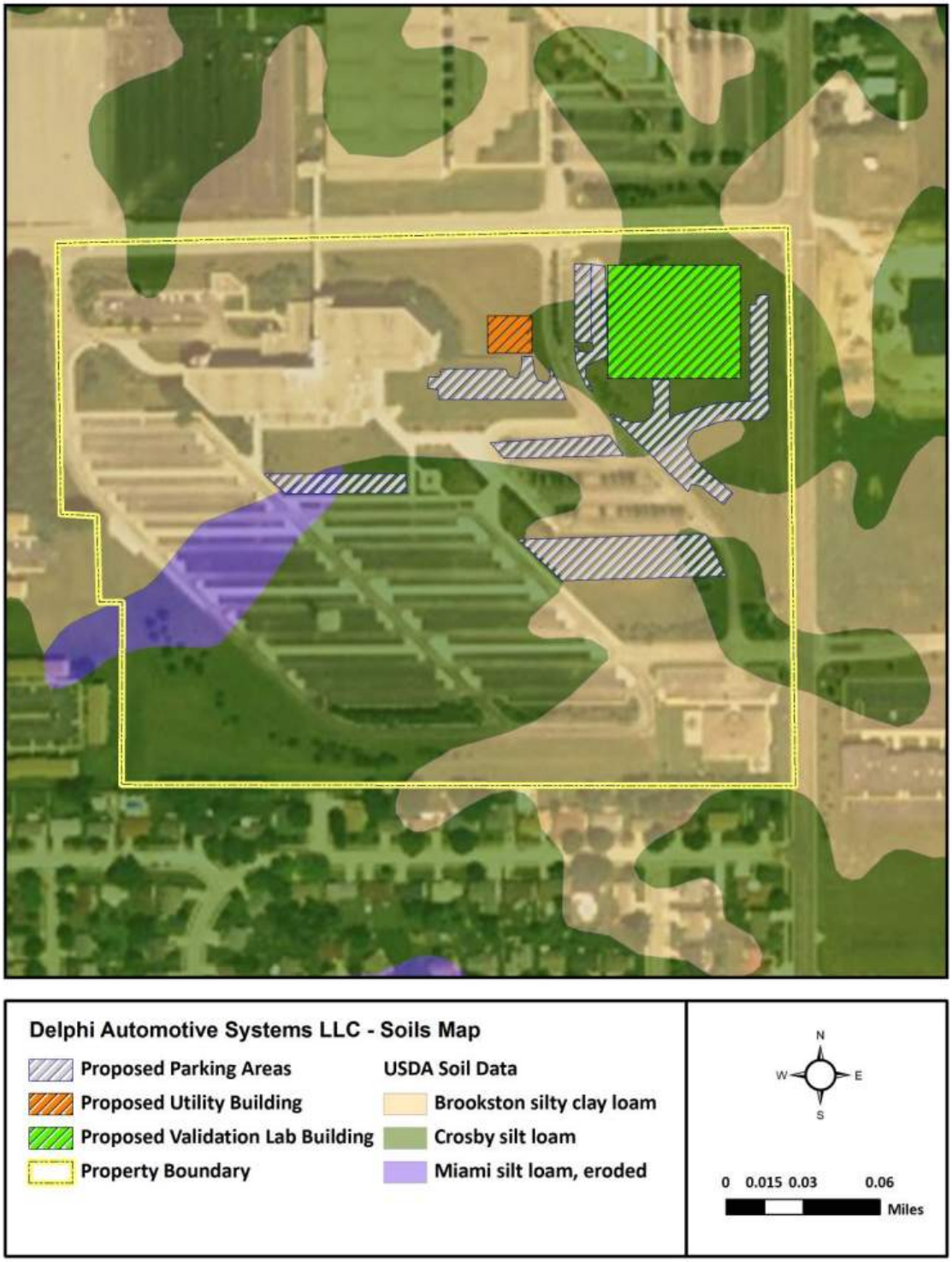


Figure 4.2.1-1. Soil Types at the CTC
Sources: (ESRI, 2010; NRCS, 2009).

Figure 4.2.1-2. Soil Types at KMS
Sources: (ESRI, 2010; NRCS, 2009).

The parent materials for these soils are mainly Wisconsin glacial till, glacial outwash, and alluvium (USDA, 1971). The Brookston silty clay loam series is found in areas where the slope is very low, from 0 to 3 percent. For explanation on the relationships between the soils see Figures 4.2.1-3 and 4.2.1-4). They are a direct result of till deposition and are poorly drained due to soil particle size and slope. They have moderate permeability and a low to negligible surface runoff potential (USDA, 2008). Given the low slope, low runoff, and silt/clay particle size, these soils have low to moderate erosion potential. The Crosby silt loam is a soil series that occurs in gently sloping locations, often ranging from 0 to 6 percent slope. They are somewhat poorly drained soils and are also formed from glacial till deposition. The potential for surface runoff is slightly higher than that of the Brookston series at low to medium (USDA, 2007a). The Crosby series has low to moderate erosion potential. The third series, the Miami silt loam, is found on till plains with slopes ranging from 0 to 60% over their entire extent. At the site of Delphi's proposed project, the slopes are on the low range of this from 0 to 5 percent. These soils are moderately well drained and have a medium surface runoff potential at the site of Delphi's proposed project. They are moderately permeable and can be prone to erosion when located on steeper slopes (USDA, 2007b).

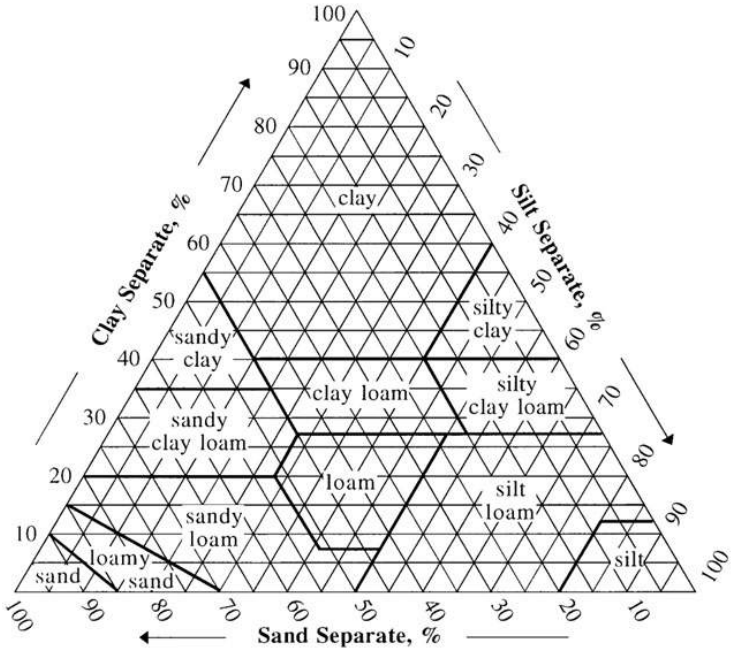


Figure 4.2.1-3. Composition of Different Soil Types
Source: (USDA, 2011)

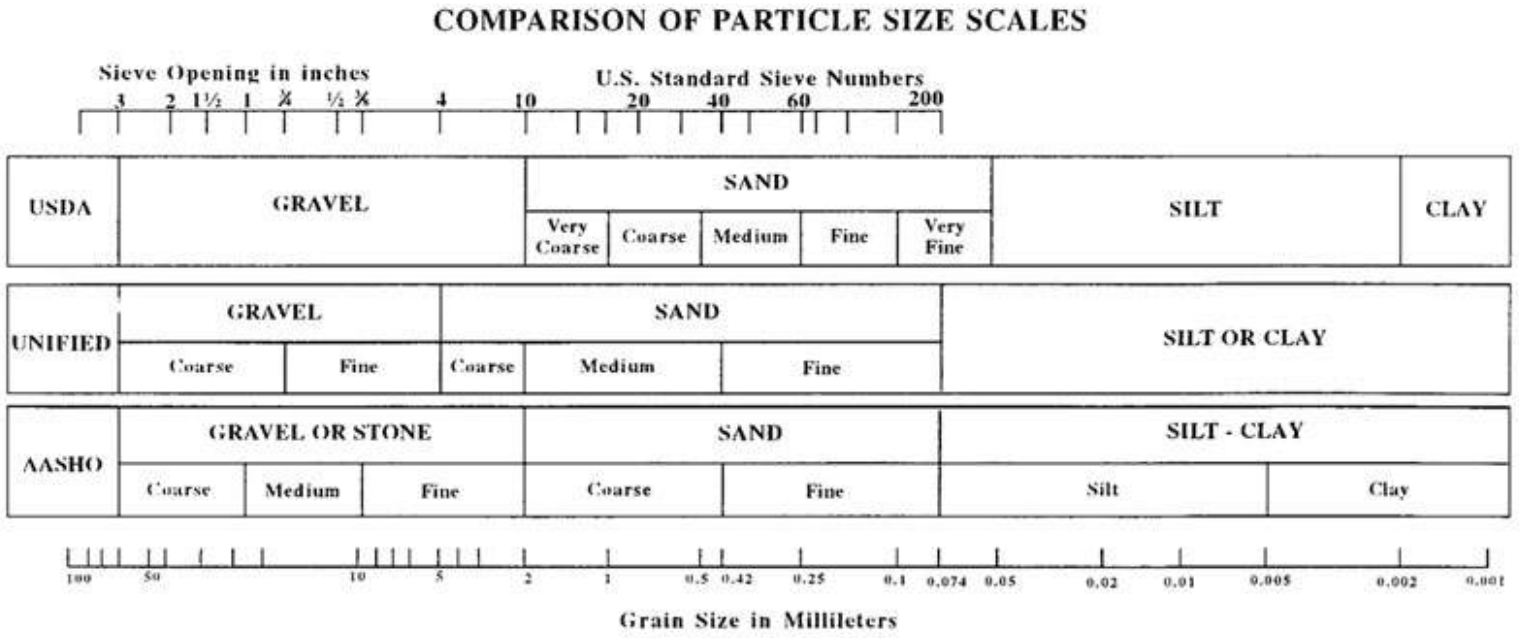


Figure 4.2.1-4. Comparison of Soil Particle Sizes between Soil Types
Source: (USDA, 2011)

4.2.2 Effects of Delphi's Proposed Project

Delphi's proposed project includes the construction and operation of site improvement on established Delphi Automotive Systems, LLC property. The construction includes two small utility buildings, a large engineering laboratory, a small air cooling building, a new electrical line, and six separate parking lots within the existing footprint.

4.2.2.1 Geology

The construction of the proposed buildings may include excavation to a standard depth to create the foundation of the buildings. This excavation would impact subsurface geology, but the effects would be minor due to the relatively small size of the construction compared to the footprint of the Delphi properties. Similar digging may be necessary to provide a foundation for the new electrical line. The impacts of this would not be expected to affect subsurface geology adversely. The construction of new parking areas would not impact subsurface geology. The overall impacts to geology would be expected to be below the significance threshold.

4.2.2.2 Soils

The construction activities associated with Delphi's proposed project have potential to affect soil resources at the site. The plan for the two utility buildings places the construction on mainly Brookston silty clay loam and Crosby silt loam. The Lab as well as the proposed air cooled chiller would be constructed on mainly Crosby silt loam. Excavation and land clearing would require the removal of topsoil and deeper soil layers for foundation building. This topsoil would be removed and stored at a pre-determined location for redistribution once the construction period is completed (Delphi, No date). The addition of buildings also increases impermeable surfaces on the site of the Delphi's proposed project. An Erosion and Sedimentation Control Plan has been approved for the construction of these buildings and has been approved by Delphi. The installation of a silt fence (where necessary) as well as re-vegetation and daily inspections would combine to minimize impacts to soils. The impacts to soils by the construction of the utility and lab buildings would be expected to be below the significance threshold.

The construction of the new power line(s) would occur on all three soils present at the site of Delphi's proposed project. This includes the Crosby silt loam, the Brookston silty clay loam, and the Miami silt loam. A small footprint of excavation would be necessary to install the lines underground, but the overall impact to soils for this construction would be below the significance threshold.

The construction of six parking areas would have the potential to affect soil resources due to the creation of impermeable surfaces. Impermeable surfaces increase rainwater and other types of runoff, which can increase soil erosion in the surrounding areas. The Stormwater Pollution Prevention Plan (SWPP) approved to address the construction of the buildings would also be applied when constructing the parking areas. Parking areas

C, F, and most of A would all occur on the Brookston silty clay loam. Parking areas D and E occur on both Brookston and Crosby silt loam, while parking area B occurs on the Crosby, Miami, and Brookston series. Each series has low to moderate erosion potential, thus mitigation techniques have a large impact on the degree to which soils would be affected. If best management practices are applied during the construction period and the SWPP Plan is implemented during construction and operation, impacts to soils would be expected to be below the threshold of significance.

Staging areas and access roads may be necessary during the construction period. The staging areas are not yet determined, but SWPP Plans would be applied at each location. For the construction of access roads, crushed concrete would be applied to a layer of geotextile cloth. The crushed concrete would be replaced as needed, and any water pooling or depressions would be filled. The access road would be a semi permeable surface, thus would have a similar infiltration rate to that of the native soil. Impacts from the staging areas and access roads would be expected to remain below the threshold of significance.

4.2.3 Effects of the No-Action Alternative

Under the no-action alternative, DOE would not provide funds to the proposed projects. As a result, these projects would be delayed as they look for other funding source to meet their needs, or abandoned if other funding sources are not obtained. There would not be facility construction, parking area construction, staging area construction, or access road construction; thus, no impact to geology or soils would occur

4.2.4 Cumulative Effects

There are no past, present, or foreseeable future projects that can be analyzed collectively with Delphi's proposed project that would result in a greater cumulative effect on these resources than what would occur singularly as a result of Delphi's proposed project. This includes the projects in Table 1.4 that are far enough away from Delphi's proposed project sites to avoid interactive impacts and would be subject to the same regulations that minimize impacts.

4.3 Wetlands

4.3.1 Description

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, under normal circumstances, a prevalence of vegetation typically adapted for life in saturated soil conditions. The United States Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into waters and wetlands of the United States pursuant to Section 404 of the Clean Water Act (USACE, No date). Additionally, according to the State of Indiana, before a construction permit is issued a section 401 Water Quality Certification must be obtained from the

IDEM Office of Water Quality (OWQ) for any activity requiring a federal permit (IGA, 2011).

The State of Indiana has identified nonpoint source pollution (NPS) as having the biggest impact on water quality in both surface water and groundwater (INDNR, 2010a). Wetlands act as filter, by capturing NPS pollutants. Additionally the vegetation in wetlands helps keep stream channels intact by reducing the velocity thus reducing stream bank erosion during periods of high flow and it also reduces stream temperature by providing streamside shading.

According to the National Wetlands Inventory (NWI) approximately 8 feet to the west of the Delphi CTC boundary and 0.2 miles to the east of the closest proposed building at the KMS site are freshwater forested/shrub wetlands, which are forested swamps or wetlands or shrub bog wetlands (Figures 4.3.1-1 and 4.3.1-2) that according to *Title 327 Article 17 of the Indiana Administrative Code* are Class I state regulated wetlands (SRW). A Class I SRW is defined as an isolated wetland that can be described by one or more of the following (IGA, 2011):

- At least 50 percent of the wetland has been disturbed or affected by the human activity or development by either removal or replacement of natural vegetation or by modification of the natural hydrology; and
- That the wetland supports only minimal wildlife or aquatic habitat or hydrologic function because the wetland does not provide critical habitat for threatened or endangered species listed in accordance with the Endangered Species Act of 1973 (16 USC 1531 et seq.) and the wetland is characterized by at least one of the following:
    - The wetland is typified by low species diversity;
    - The wetland contains greater than fifty percent areal coverage of nonnative invasive species of vegetation;
    - The wetland does not support significant wildlife or aquatic habitat; and
    - The wetland does not possess significant hydrologic function. According to Title 327 Article 17 Rule 2 of the IAC a general permit for minimal impacts to SRWs must be filed to authorize wetlands activities. For purposes of this project, this is defined as any new construction activities associated with the construction or installation of new facilities or structures. "Activities" include any of the following provided the individual and cumulative impacts are minimal
        - Filling and grading;
        - Dredging;
        - Stormwater, sediment, and erosion control activities; and
        - Roads, infrastructure, and utilities.

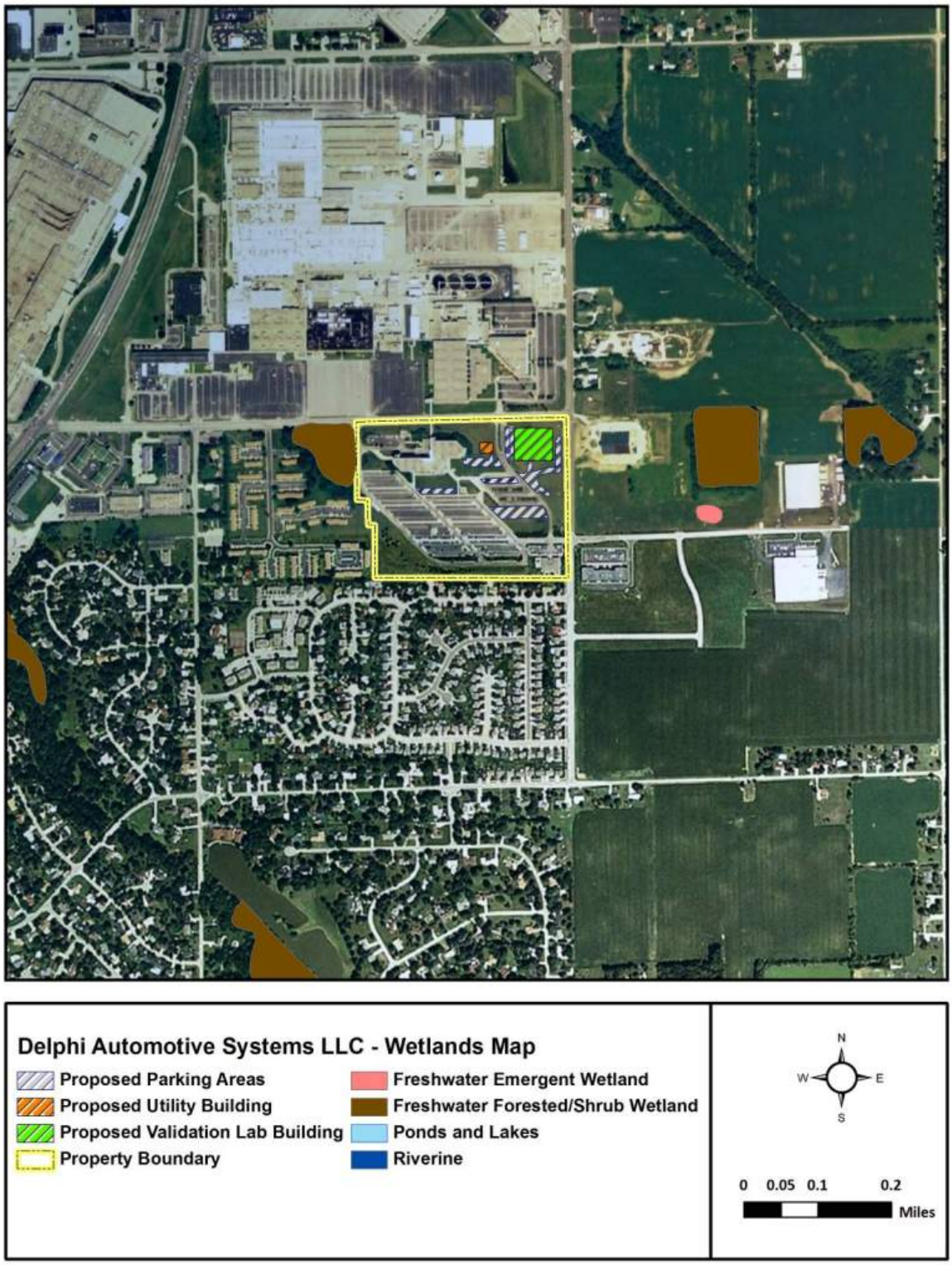


Figure 4.3.1-1. Wetlands in CTC Project Vicinity
Sources: (USFWS, 2010; ESRI, 2010)

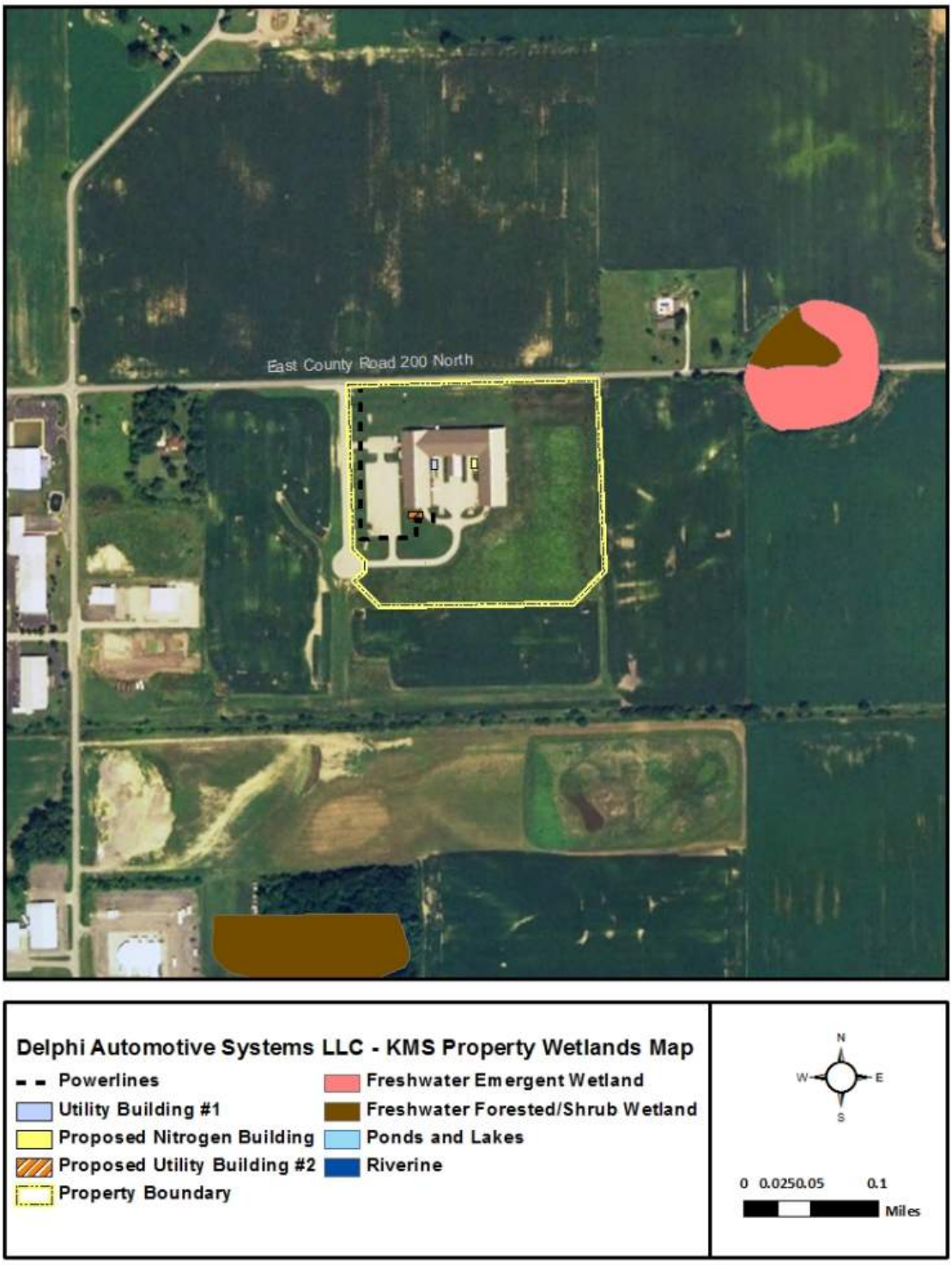


Figure 4.3.1-2. Wetlands in KMS Project Vicinity
Sources: (USFWS, 2010; ESRI, 2010)

4.3.2 Effects of Delphi's Proposed Project

After relevant BMPs are employed, overall impacts to wetlands from the implementation of Delphi's proposed project would not exceed the threshold of significance. These BMPs would help in slowing down runoff and would assist in the filtration of pollution and sedimentation. The following are a list of BMPs from the SWPP Plan that could be used during construction and after construction (Delphi, No date).

- During Construction
  - Silt Fencing is a temporary barrier that is designed to retain sediment on the construction site. Sedimentation is deposited on the uphill side of the fence and runoff is filtered as is passes through the fence.
  - Preserve natural vegetation would allow infiltration to take place and slow the speed at which runoff travels.
  - Stabilized construction entrance would be construction of a stabilized pad of quarry spalls at entrance of construction sites. These entrances are stabilized to reduce the amount sediment transported onto paved roads by vehicles or construction equipment.
- Post Construction
  - Grassed Swales are vegetated open channel that are designed to slow the water allowing for filtration through the subsoil and infiltration into the underlying soils.
  - Retention Ponds allow for relatively large flows of water to enter, but discharges to receiving waters are limited by outlet structures during large storm events. These ponds collect runoff before releasing it into surface waters. The water is released similar to natural conditions. They also remove pollutants through settling and filtering.
  - Detention Ponds are designed to temporarily hold a prescribed amount of water while slowly draining to another location. These ponds collect runoff before releasing it into surface waters. The water is released at conditions similar to natural conditions. They also remove pollutants through settling and filtering.

Impacts would occur from construction activities by an increase in the levels of both natural and manmade pollutants already present in the runoff. Additionally, the added parking lots would create more impervious surfaces that do not allow water to seep into the ground, creating more runoff since less water is able to infiltrate-water that is filtered naturally before it gets to the water source-the ground. These surfaces increase the rate of storm water runoff. Without proper implementation of BMPs, this results in increased flooding, a loss of some wetland/aquatic habitats, and an increased level of both natural and manmade pollutants that are carried to wetlands by runoff.

4.3.3 Effects of the No-Action Alternative

The no-action alternative would have negligible impacts since there would be no new impacts to wetlands. The levels of both natural and manmade pollutants carried by

runoff would decrease, due to the preservation of the vegetative buffers currently in place and lack of construction activities. These vegetative buffers allow for infiltration to take place allowing water to travel at a slower pace, thus decreasing the amount of runoff that is carried. This decrease in runoff would provide an ongoing benefit to wetlands by decreasing the chances of flooding, protecting aquatic habitats, and decreasing the level of natural and manmade pollutants that are deposited.

4.3.4 Cumulative Effects

The cumulative impacts of existing activities in and around the project area do not represent a substantial risk to wetlands. Projects in Table 1.4 are far enough away from Delphi's proposed project sites to avoid interactive impacts and would be subject to the same regulations that minimize impacts. Further, Delphi's proposed project would contribute minimally to cumulative impacts due to the minimal risk to wetlands with BMPs in place. Therefore, the cumulative impacts with implementing Delphi's proposed project would not be expected to exceed the significance threshold.

4.4 Terrestrial Vegetation

4.4.1 Description

The site proposed for the new Delphi Automotive Systems LLC utilities building, Validation laboratory, and parking lots in Kokomo, Indiana is located on 40 acres of existing industrial/technology park property. The proposed utility and cooling building and electrical lines would be located at the KMS building, which is situated on 19 acres of existing industrial/technology leased property. Both areas were previously disturbed to construct the existing facility, parking lots, and access road; therefore, existing vegetation consists of landscaping and turf grasses. The land surrounding the sites has also been disturbed and consists of landscaping, turf grasses, maintained farm fields, and freshwater forested/shrub wetlands. The previously disturbed forested/shrub wetland is located adjacent to the North West corner of the Delphi Facility (See Section 4.3).

Executive Order 13112 - Invasive Species directs federal agencies to make efforts to prevent the introduction and spread of invasive plant species, detect and monitor invasive species, and provide for the restoration of native species. Invasive species are usually destructive, difficult to control or eradicate, and generally cause ecological and economic harm. A noxious weed is any plant designated by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property. Indiana's Seed Law lists species that are considered noxious weeds in the state that are either prohibited or restricted weed seeds (Indiana Code (IC) 15-15-1-14; Nice, 2010). Indiana state law IC 14-24-12 prohibits a person from selling, offering to sell, give away, plant or distribute purple loosestrife (*Lythurm* spp) without a permit issued by the division director of entomology and plant pathology. IC 14-24-12 also prohibits the planting of any variety of multiflora rose (*Rosa multiflora*) (Nice, 2010).

The USFWS does not list any federally endangered or threatened vegetative species as occurring in Howard County, Indiana (USFWS, 2011a). Indiana lists five species under their Endangered, Threatened and Rare Species List for Howard County. Table 4.4.1 lists these species along with their federal and state status (INDNR, 2010b).

Table 4.4.1. Endangered, Threatened and Rare Species List for Howard County

Species	Federal Status	State Status
Scarlet Hawthorn (*Crataegus pedicellata*)	--	ST
Illinois Hawthorn (*Crataegus prona*)	--	SE
Fleshy Hawthorn (*Crataegus succulenta*)	--	SR
American Manna-grass (*Glyceria grandis*)	--	SX
Grooved Yellow Flax (*Linum sulcatum*)	FSC	SR

Please note: SR: State Rare; SG: State Significant; SX: State Extirpated; SE: State Endangered; ST-State Threatened; FSC- Federal Species of Concern. Sources: (USFWS, 2011a; INDNR, 2010b)

4.4.2 Effects of Delphi's Proposed Project

The proposed Utility Building and Engineering/Validation Lab Building covers 10,700 ft^2 and 70,000 ft^2, respectively, not including the parking lots and existing roads. Delphi's KMS facility is an existing 93,000 ft^2 leased facility that Delphi would modify and equip for validating and producing advanced automotive electric drive components. The new construction at the KMS facility would include a nitrogen building, utility building, and new electrical lines. These buildings and electrical lines are located adjacent to the existing facility and access road. Grading these sites for construction would affect the maintained landscape and mowed grounds. No grading would occur on the forested/shrub wetland, and BMPs would be used to minimize any impact from an increase in impervious surfaces (See Section 4.3). Disturbed areas around the new facility would be landscaped with native vegetation. Impacts to vegetation would be below the significance threshold.

Noxious weeds and invasive plant species are generally found in disturbed soil conditions. Surface disturbance and construction activities could facilitate the establishment and spread of noxious weeds. Aggressive non-native species could become established if ground disturbance during construction is extensive and lengthy. However, the size of disturbance for the proposed buildings and the short length of time before the ground surface is stabilized would minimize the risk of noxious weeds becoming established and therefore any potential impacts would be below the significance threshold.

Preventive measures such as monitoring and eradication would be implemented to reduce the introduction and spread of weeds. Heavy equipment transferring among construction sites could also introduce noxious weeds; however, equipment would be cleaned before and after use on the site. With preventative measures implemented, the risks of invasive species should be minimized.

Overall, any changes to native vegetation would be limited to a small area and would not affect the overall viability of the resources. Recovery would occur in a reasonable time,

considering the size of the project and the affected resource's natural state. Therefore, impacts on terrestrial vegetation would not be expected to exceed the significance threshold.

The proposed construction would take place on maintained and landscaped surfaces, making it highly unlikely that one of the species from Table 4.4.1 occurs on the site. Because of site conditions and the lack of documented occurrences of state and federally listed species on the site, impacts to threatened and endangered vegetation species would be below the significance level. Impacts on threatened and endangered plant species would not be expected to exceed the significance threshold.

4.4.3 Effects of the No-Action Alternative

Site conditions would remain unchanged under the no-action alternative. The surface soils would not be disturbed for construction, and no impacts to vegetation would occur.

4.4.4 Cumulative Effects

Expansion of industrial development in the area would have a cumulative effect to native vegetation in the area. Cumulative impacts within the vicinity that may contribute to cumulative impacts include road construction and maintenance. For example from Table 1.4, construction projects for U.S. 31 in Howard County, Indiana would be completed within a 25-year period (IDOT, No date) and could potentially increase impervious surfaces in the county. However, the distance to the Delphi sites and the landscaped area being converted at the Delphi sites reduces the interactive effects. The other projects listed in Table 1.4 are also in landscaped areas and would constitute negligible interactive impacts due also to the distances between the sites. Consequently, no reasonably foreseeable projects in the vicinity exist that would have a combined adverse effect with Delphi's proposed project that would cause impacts to exceed the threshold of significance. Increased manufacturing of parts for electric drive vehicles would have a cumulative beneficial effect on the environment from improved electric drive vehicles. Cumulative impacts from Delphi's proposed project when added to other past, present, and reasonably foreseeable future actions would be minimally adverse and are not expected to exceed the threshold of significance.

4.5 Wildlife

4.5.1 Description

Numerous native species of reptiles, amphibians, birds, and mammals have the potential to occur in the industrial areas in Howard County, Indiana near and in the Delphi facilities area. Common species likely to occur within or near the project area are described below and vegetation (which is related to wildlife with regards to habitat preference) is discussed in Section 4.4. This information is not intended to represent an exhaustive list of all species that may be present or have habitat present within the project area.

Common mammals that have potential to occur in the project area include the white-tailed deer (*Odocoileus virginianus*), opossum (*Didelphis virginiana*), meadow vole (*Microtus pennsylvanicus*), little brown bat (*Myotis lucifigus*), raccoon (*Procyon lotor*), eastern cottontail rabbit (*Sylvilagus floridanus*), and red fox (*Vulpes vulpes*) (INDNR, 2007a).

Common reptiles that have potential to occur within the project area include garter snakes (*Thamnophis spp.*), rat snakes (*Elaphe spp.*), king snakes (*Lampropeltis spp.*), skinks (*Eumeces spp.*), and eastern hognose snake (*Heterodon platyrhinos*) (INDNR, 2007b).

Common amphibians that have potential to occur in the project area include mole salamanders (*Ambystoma spp.*), red-backed salamanders (*Plethotdon cinereus*), wood frog (*Rana sylvatica*), western chorus frog (*Pseudachris triseriata triseriata*), and American toad (*Bufo americana*) (INDNR, 2007c).

Common birds that have potential to occur within the project area, as either residents or migrants, include the American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), spruce grouse (*Canachites canadensis*), western scrub-jay (*Aphelocoma californica*), broad-winged hawk (*Buteo platypterus*), red-tailed hawk (*Buteo jamaicensis*), and numerous other passerines and raptors (INDNR, 2007d).

Threatened and Endangered (T&E) species consultation with the USFWS was conducted via a review of the USFWS technical assistance website in April 2011. No critical habitats or federally listed plant species exist near the project site or in Howard County. According to the online species lists for counties in Indiana, the only protected species found in Howard County is the Indiana bat (*Myotis sodalis*) (USFWS, 2011b). The Indiana bat is a migratory species that hibernates in caves and cave-like structures, such as mines, in the State of Indiana during the winter. During the summer they roost under the peeling bark of trees and forage in closed to semi-open forested areas. Degradation and disturbance of winter hibernacula and loss of summer habitat are the major threats to this species (USFWS, 2007). Most hibernacula used by Indiana bats are found in the Southern parts of Indiana where there is karst topography (See Section 4.2) that produces appropriate cave sites, and there is no critical habitat for the Indiana bat in Howard County, IN (USFWS, 2011c). Table 4.5.1 includes a list of the state protected wildlife species found in Howard County (INDNR, 2010b).

Table 4.5.1. Protected Species in Howard County

Common Name	Latin Name	State Status	Federal Status
American Badger	*Taxidea taxus*	SSC	
Indiana Bat	*Myotis sodalis*	SE	FE
Bobcat	*Lynx rufus*	SSC	
Peregrine Falcon	*Falco peregrines*	SE	
Butler's Garter Snake	*Thamnophis butleri*	SE	

Note: SSC is State Species of Special Concern, SE is State Endangered, and FE is Federally Endangered.

Badgers prefer open prairie habitats (INDNR, No date[a]), and bobcats prefer heavily forested areas (INDNR, No date[b]). Both species are not found in densely developed or human inhabited areas. Peregrine falcons have been delisted from the federal list of threatened and endangered species but can be commonly found in developed areas especially with tall buildings that mimic their preferred habitat of steep cliffs (INDNR, No date[c]). The Butler's garter snake prefers moist, open grassy habitats such as wet meadows and prairies (CRACM, 2004).

4.5.2 Effects of Delphi's Proposed Project

Some ground clearing and development would occur as a result of the proposed buildings, electrical lines, and parking lot additions. These impacts to species would be minimal due to the minor quantity of clearing required and the siting of project features in already disturbed areas. Further, clearing would be conducted in areas adjacent to previously disturbed areas, which would minimize additional habitat fragmentation in Howard County. The effects would not exceed the significance threshold.

Impacts to wildlife due to Delphi's proposed project would be minimal due to the lack of suitable habitat in the project area. Mobile species would disperse to adjacent habitat. Small, less mobile species may suffer mortality during workspace clearing and grading, but these impacts would not be significant to the population as a whole. These impacts would be localized and limited to the immediate area of the project site. The effects would not exceed the significance threshold.

Activities for construction such as vehicle traffic, human presence, and noise would cause temporary displacement and disturbance of resident wildlife for the duration of construction. Although most species have likely been displaced from the project area due to current human activities, species that continue to use the site are expected to return after construction and injection is completed. These impacts would be localized and limited to the immediate area of the project site. The effects would not exceed the significance threshold.

Any impacts on wildlife from Delphi's proposed project would be limited to a small portion of the population and most mobile species would not be adversely affected by the permanent or temporary loss of small sections of habitat. The loss of individuals of any species would not affect the viability of the resource. Full recovery would occur in a reasonable time, considering the size of the project and the affected species' natural state. Therefore, impacts on wildlife would not be expected to exceed the significance threshold.

Delphi's proposed project is located in a developed area of the City of Kokomo, Indiana that does not include prairies, wet meadows, forested areas or caves and the project would not fragment adjacent habitat. Impacts to the American badger, bobcat, and Butler's garter snake would not be expected due to lack of preferred habitat and the location of Delphi's proposed project site within a developed industrial area. Although there may be peregrine falcons in the vicinity of the project, impacts would be expected

to be below the significance threshold as the proposed building is not tall enough to be preferred perching or nesting habitat and ground construction would not be expected to cause impacts.

Delphi's proposed project would not affect any bat hibernacula or roosting sites. It is not a suitable habitat for foraging individuals of Indiana Bat (See Figure 2.1). Because this project would not degrade or remove preferred habitat for the Indiana bat, the impacts to individuals of the species or the population would be unlikely. The effects would not exceed the significance threshold.

A consultation letter requesting review of the project and concurrence with a finding of no significant impact was mailed to the regional USFWS on April 6, 2011. A copy of the consultation letter is included in Appendix B.

4.5.3 Effects of the No-Action Alternative

Under the no-action alternative, DOE would not provide funds to Delphi's proposed project. As a result, these projects would be delayed as they look for other funding source to meet their needs, or abandoned if other funding sources are not obtained. There would not be facility construction, parking area construction, staging area construction, or access road construction and thus no impact to wildlife including threatened and endangered species would be expected from Delphi's proposed project.

4.5.4 Cumulative Effects

There are no past, present, or foreseeable future projects that can be analyzed collectively with Delphi's proposed project that would result in a greater cumulative effect on this resource than what would occur singularly as a result of Delphi's proposed project. This includes the projects in Table 1.4 that are far enough away from Delphi's proposed project sites to avoid interactive impacts, especially considering the common and low quality of habitat provided at the manufacturing sites, and all projects would be subject to the same regulations that minimize impacts.

4.6 Socioeconomic Resources

The analysis of socioeconomic impacts identifies those aspects of the social and economic environment that are sensitive to changes and that may be affected by actions associated with the proposed construction and operation of a CTC and KMS production facility. Socioeconomic factors describe the local demographics, economy, and employment of the potentially affected region of influence that could be impacted by Delphi's proposed project. The data supporting this analysis are collected from standard sources, including the U.S. Census Bureau.

4.6.1 Description

The immediate project areas and the city of Kokomo represent the primary focus for any direct impacts that may be associated with implementation of Delphi's proposed project. The city of Kokomo is the county seat of Howard County, Indiana, and for purposes of this analysis, the city of Kokomo will serve as the analytical region of influence (ROI) for consideration of socioeconomic effects. In addition, Howard County will be considered for indirect impacts and as the point of comparison.

According to the 2005-2009 American Community Survey, Kokomo city has a population of 46,920. There are 24,351 housing units, and the median income for a household was $37,221. The median income for a family is $45,262; and the per capita income is $20,328 (Census, 2009a). Kokomo city's median family income, median household income, and per capita income figures are all roughly 15-20 percent lower than those of Howard County (Census, 2009b).

Table 4.6.1-1. Demographic Profile for Kokomo city and Howard County

	Kokomo City (2000)	Howard County (2000)	Kokomo City (2005-2009)	Howard County (2005-2009)
Total Population	46,113	84,964	46,920	83,685
16 and older	35,661	65,669	36,204	65,522
In labor force	22,444	41,471	21,068	38,058
Unemployed	1,345	2,007	2,293	3,520
Total Housing Units	22,350	37,604	24,351	39,397
Median Family Income	45,353	53,051	45,262	55,166
Median Household Income	36,258	43,487	37,221	46,901
Per capita income	20,083	22,049	20,328	23,729

Sources: (Census, 2000a; Census, 2000b; Census, 2009a; Census, 2009b)

Kokomo has a history in the automotive manufacturing business, with Elwood Haynes test-driving his early internal combustion engine in 1894. The Haynes-Apperson Automobile Company was subsequently established in 1898. In 1936, the Delco Radio Division of General Motors (now Delphi) produced the first radio to be installed in the instrument panel of an automobile (Ferries, 2011). Chrysler LLC and Delphi Corporation are the town's largest employers (CoK, 2011).

The economy of Kokomo continues to be dominated by manufacturing, which employs 25.2 percent of the labor force. The educational services, health care and social assistance sector employs 21.7 percent, retail trade 12.4 percent, and arts, entertainment, recreation, and accommodation and food services 10.7 percent (Census, 2009a).

Table 4.6.1-2. Employment by Industry in Kokomo City				
Industry Sector	Number of Jobs		Percent Labor Force	
	2000	2005-2009	2000	2005-2009
Total Employment	21,063	18,775	59.1	51.9
Manufacturing	6,811	4,730	32.3	25.2
Educational services, and health care and social assistance	3,630	4,075	17.2	21.7
Retail trade	2,521	2,331	12.0	12.4
Arts, entertainment, and recreation, and accommodation and food services	1,916	2,010	9.1	10.7
Other services, except public administration	979	1,091	4.6	5.8
Construction	1,092	1,003	5.2	5.3
Professional, scientific, and management, and administrative and waste management services	847	838	4.0	4.5
Finance and insurance, and real estate and rental and leasing	757	724	3.6	3.9
Public administration	838	588	4.0	3.1
Transportation and warehousing, and utilities	636	546	3.0	2.9
Wholesale trade	457	425	2.2	2.3
Information	544	375	2.6	2.0
Agriculture, forestry, fishing and hunting, and mining	35	39	0.2	0.2

Sources: (Census, 2000b; Census, 2009a).

The most notable trend between 2000 and 2005-2009 figures is the parallel and roughly equal decrease in total employment and manufacturing. This can be attributed to the 2008-2010 automotive industry crisis, which was part of a global financial downturn. During this time, some American consumers turned to smaller, cheaper, and more fuel-efficient European and Japanese cars, instead of American suburban utility vehicles (SUVs) and pick-up trucks. SUVs and pick-up trucks, up until that point, represented the primary production of the "Big Three" automakers: General Motors, Ford, and Chrysler. Chrysler and General Motors were – and still are – among the main employers in Kokomo and the larger Howard County. The two were temporarily "nationalized" with the government assuming their debt in the form of equity. When Delphi filed for Chapter 11 bankruptcy in late 2005, Kokomo was one of the eight Delphi plants that remained operational albeit with wage and workforce reductions (KT, 2011; CNN, 2006). Public news sources have indicated that as Delphi emerged from bankruptcy in 2009, General Motors (GM) assumed ownership and operation of five Delphi plants (including Kokomo) as wholly owned subsidiary: meaning a subsidiary whose parent company owns 100 percent of its common stock. In April 2011, Delphi reclaimed ownership, though GM will continue to own the manufacturing facilities (KT, 2011).

The unemployment rate is defined as the number of unemployed persons divided by the labor force, where the labor force is the number of unemployed persons plus the number of employed persons. Kokomo city has an unemployment rate of 10.9 percent; while that of Howard County is 9.4 percent; both are higher than the 7.2 percent national average (Census, 2009a; Census, 2009b; Census, 2009c).

Table 4.6.1-3. Unemployment Rates of Kokomo city, Howard County, and Nation

Area	2000	2005-2009
Kokomo City	3.8%	10.9%
Howard County	3.1%	9.3%
U.S.	3.7%	7.2%

Sources: (Census, 2000a; Census, 2000b; Census, 2000c; Census, 2009a; Census, 2009b; Census, 2009c)

Unemployment rates for Kokomo city, Howard County, and the United States all have parallel trends with regard to the 2008 financial crisis.

Property taxes represent a property owner's portion of the local government's spending in a given year. Property taxes in Indiana are paid in arrears, meaning the taxes paid in the current year represent the taxes owed for the previous year (DLGF, 2011a). A property's assessed value is the basis for property taxes. Annually local assessing officials assess the value of real property (buildings) based on market and profit value of the property. County officials add all of the assessed values of property in a county together and subtract the applicable deductions, exemptions, or abatements to determine the county's net assessed value. The Indiana Department of Local Government Finance sets the total amount of money government units in a county can spend in a year based on projected revenues for the county. This total allowed expenditure is divided by the net assessed value to determine the tax rate (DLGF, 2011a).

The tax rate is multiplied by the assessed value after all deductions are subtracted from each property. The county auditor then applies the appropriate credit state homestead credit and property tax replacement credit to arrive at the amount the property owner will pay in taxes to the county (DLGF, 2011a). The state homestead credit and percent of state property tax replacement credit were both zero in 2010 and 2011 in Howard County (DLGF, 2010; DLGF, 2011b).

Table 4.6.1-4. Property Tax Rates

Township	2010 Rate	2011 Rate
Center	1.5509	1.6752
Kokomo City – Center	2.9019	3.2100
Kokomo City – Clay	2.9791	3.1518
Kokomo City – Harrison	3.2047	3.4998
Kokomo City – Howard	2.9827	3.1552
Jackson	2.1488	2.3652

Table 4.6.1-4. Property Tax Rates		
Township	**2010 Rate**	**2011 Rate**
Liberty	2.1417	2.3619
Greentown	2.8425	3.1363
Kokomo City - Taylor	3.4010	3.7402
Union	2.1465	2.3581
Clay	1.5778	1.5646
Ervin	1.5997	1.5863
Harrison	1.8169	1.9235
Honey Creek	1.8605	1.9560
Russiaville	2.7811	2.8740
Howard	1.5802	1.5645
Monroe	1.8096	1.9246
Taylor	2.0417	2.1935

Sources: (DLGF, 2010; DLGF, 2011b)

4.6.2 Effects of Delphi's Proposed Project

This section addresses the potential for positive and negative socioeconomic impacts that might occur in the local community.

DOE's proposed action is to provide Delphi with $89.3 million in grant funding to facilitate the construction and operation of a small utilities building and a large engineering laboratory (approximately 10,700 square feet and 70,000 square feet in size, respectively) on 40 acres of existing industrial/technology park property; as well as readying products for production, modifying and equipping the existing leased KMS building (approximately 93,000 ft²) on 19 acres of existing industrial/technology park property (Ferries, 2011).

The engineering laboratory, located at 2151 Lincoln Road, would contain four functional labs: Power Electronics Development, Validation, Proto, and DPSS OE Service Test. The Power Electronics Lab consists of the development area for power electronics components and the propulsion system dynamometer test area. The Validation Lab negotiates the requirements for testing with the customer, develops the hardware and software platforms to interface with the product; and performs testing on the product. The Proto Lab builds engineering development units for all of the Delphi Electronics & Safety product lines. Processes include surface mount, sticklead hand placement, manual final assembly, and test. The DPSS OE Service Test Development Lab would design, test, and implement remanufacturing test services for a wide variety of products (Ferries, 2011).

The KMS production facility is an existing leased 93,000 ft^2 facility to validate and produce advanced automotive electric drive components. This electric vehicle component manufacturing facility - a former WIS Sheet Metal Inc. building located 6 miles from the CTC facility at 1051 E. 200 North (Morgan

Street) - was retrofitted at a cost of $4.3 million (IED, 2010a; Krishna, 2011). The debugging and addition of power equipment and machinery to produce power electronics components and systems was partly made possible by the Kokomo City Council's five-year personal property tax abatement on up to $59 million in new machinery (IED, 2010a).

Delphi's proposed project would create jobs and increase economic activity in the following ways:

4.6.2.1 Employment

The overall project would create 333 short-term construction jobs over a 12-month construction period, and directly add (create or retain) 190 full time jobs (Ferries, 2011), of which 95 would be production jobs in the Morgan Street facility and 95 would be engineering jobs, in accordance with the objectives of the Recovery Act (Krishna, 2011). Project proponents estimate a total cost of approximately $178.6 million, $89.3 million of which would be financed by the DOE grant. The project's total construction cost is estimated at $14.2 million. Approximately fifty percent of the total construction costs would be spent on local labor (Ferries, 2011). This would create a short-term, minor, and beneficial impact to socioeconomic resources.

The Lincoln Road facility is expected to account for the creation of approximately 200 of the 333 short-term construction jobs over an approximately 12-month period (Krishna, 2011; Renner, 2011g). No incremental long-term jobs would be created from the Lincoln Road facility (Krishna, 2011).

Project proponents estimate that approximately 30 percent of total construction cost – or $4.3 million – would be allocated to retrofit the Morgan Street facility. It would create approximately 133 of the total 333 short-term construction jobs over an approximately 16-month period, as well as retain or create 95 long-term engineering jobs with an average estimated salary of $95,852 for a total annual amount of $9.1 million (Krishna, 2011; KT, 2010).

The addition of these permanent manufacturing jobs would have both short-term and longer-term beneficial impacts on economic activity in the region, as the salaries and wages paid to facility staff flow through the local and regional economy in the purchase of goods and services.

4.6.2.2 Manufacturing Sector

The sale of manufactured products creates demand for goods and services at different stages in the automotive manufacturing cycle. Employment is created "backwards" – in the mining of raw materials and construction of associated facilities; and "forwards," in the transportation, finance, and wholesale trade sectors. Reports from The Manufacturing Institute indicate that manufacturing

has the highest multiplier of all sectors, meaning that each dollar's worth of manufactured goods creates another $1.40 of activity in other sectors; the largest multiplier of all sectors (TMI, 2009).

4.6.2.3 Personal and Real Property Tax Abatement

Tax abatement is an economic development tool used by local governments to incentivize investment and job creation by exempting all or a portion of the new or increased assessed value (AV) resulting from new investment from the property tax roll. Property tax roll is a record containing a description of all properties within a county. It is a reduction in the property taxes (during a term of abatement) which would otherwise be payable on the actual value added to a property due to qualified improvement (INDOT, 2007).

This type of economic development incentive aims to 1) create and retain good paying jobs, 2) diversify the local economy, and 3) expand the tax base of an asset, or the amount that will be deductible for tax purposes against any taxable economic benefits generated by the asset (CoI, 2011). For purposes of this analysis, where goals of the tax abatements granted to Delphi are met would constitute a beneficial impact; and where those goals fall short would qualify it as an adverse impact.

1) Since the tax abatement helped enable the proposed project would create and retain good paying jobs, the first tax abatement aim would be achieved and therefore create beneficial impacts to socioeconomic resources; as discussed above in Section 4.6.2.1 (Employment).

2) As discussed above in the Section 4.6.2.2 (Manufacturing), the manufacturing sector has beneficial impacts with regard to employment, and tax abatements can have a ripple effect by creating complementary investment activity. But, the tax abatements granted for this proposed project would not diversify the economy. The automobile industry and business cycles usually move in line with each other, but the amplitude of the cycle is higher in the automobile industry. Unlike for example, the education and health sector, the automobile industry has high demand volatility. The volatility – a measure of how much the market is liable to fluctuate - of the automotive industry is also higher than that of the manufacturing as a whole (OECD, 2010). The demand of the automobile industry is elastic, meaning that a given percentage change in price results in a *larger* percentage change in quantity demanded. Historically an automobile manufacturing town, Kokomo has followed the American and global business cycles since the 1920s; resulting in the "boom and bust" cycle. The proposed project, which would directly expand the automobile manufacturing sector, would not diversify the economy which would continue to be vulnerable to the "bust." Since the tax

abatements would not help diversify the local economy, impacts to socioeconomic resources would be adverse minor and beneficial.

3) Both real and personal property tax abatements were granted and their impacts differ with regard to whether the tax base of Kokomo, or the collective value of all its taxable real estate, would be expanded.

Personal Property Tax

Business property taxes in Indiana are now capped at three percent of the assessed value, but range by taxing district (or township) (IP, 2010). Center Township has a $2.9019 personal property tax rate per $100 of assessed value (AV). Before the cap, lost revenue to local governments from abatements was compensated by increases to other taxpayers. Since local units of government have a tax levy, or an amount they are allowed to collect each year, they simply distribute the property taxes that would have been paid by that property to all the other taxpayers. Once taxpayers pay at most three percent of the assessed value, the local government would absorb the difference. The lost revenue could result in fewer funds available for public schools, parks, libraries, etc.

The AV is the dollar value assigned to assets for the purposes of fair market value taxation of the equipment. The AV of the Delphi facilities is equal to the sum value of new manufacturing, research and development, logistical distribution and information technology, and used equipment; as long as such equipment is new to the state of Indiana or acquired within the state in an "at arm's length" transaction between distinctly separate corporate entities (IP, 2010). The new power electronics equipment, surface mount equipment, final assembly equipment, solder machines, functional testers, and laboratory and test equipment for electronics manufacturing equipment are reported to be eligible for the $50 million personal property tax abatement (KT, 2010). The AV of the equipment has been factored into the total project costs.

The personal property tax abatement on up to $59 million in new machinery needed for the operation of the Morgan Street facility would allow Delphi to phase in property tax payments over a five-year deduction period, as determined by the Kokomo City Council. The remainder of the abatements would apply towards the Lincoln Road 70,000 square foot lab and 10,700 square foot utility building (IED, 2010b). Personal property tax abatement is a declining percentage of the assessed value of the newly installed manufacturing and/or research and development equipment. Taxes are phased in based on the following five-year period (IP, 2010):

Table 4.6.2.3. Schedule for 5 Year Abatement	
Year	**Percent Exempt**
Year 1	100%
Year 2	80%
Year 3	60%
Year 4	40%
Year 5	20%

Source: (IP, 2010).

Based on the five-year period, the personal property tax abatement starts at 100 percent the first year then declines by 20 percent each year. Any tax abatement does not begin until the equipment is put into use. An additional $24 million personal property tax abatement would, in part, expand on the $59 million abatement granted by the Kokomo Common Council six months prior (IED, 2010c).

However, the five-year personal property tax abatement does not take into account the standard depreciation schedule on the AV of the personal property. The projected expansion of the tax base would be reduced; and therefore so would the projected benefit to economic resources. The full value of the equipment and machinery acquired for the proposed project would not fully be taxed until Year 6; at which point the value would have depreciated significantly as would the amount of the tax. Retrofitting existing equipment would result in a higher grossed assessed value, but a lower net assessed value for tax purposes with the abatement; and therefore a higher tax burden for other property owners in the short-term and the local government in the long-term.

Real Property Tax Abatements

With respect to real property (buildings), the deduction is a percentage of the increase in assessed valuation that results from rehabilitation or redevelopment. The $4.9 million real property tax abatement granted in 2010 works in function of the declining percentage of the *increase* in assessed valuation that would result from retrofitting; based on the following ten-year period (IP, 2010):

Table 4.6.2.4. Schedule for 10 Year Abatement	
Year	**Percent Exempt**
Year 1	100%
Year 2	95%
Year 3	80%
Year 4	65%
Year 5	50%
Year 6	40%
Year 7	30%
Year 8	20%

Table 4.6.2.4. Schedule for 10 Year Abatement	
Year	**Percent Exempt**
Year 9	10%
Year 10	5%

Source: (IP, 2010).

The impact on the assessed value depends on the terms of abatement and the window provided for implementation. Since Delphi's investment at the KMS facility might not have taken place without the $59 million personal property tax abatement, it does not cost other taxpayers. And because tax abatement is granted on a sliding scale at least some level of new assessed value is added to the tax role – a breakdown of all property within a given jurisdiction, such as a city or county, that can be taxed - effective the second year of the abatement period. In the long-term, the tax base of the county will increase, but by less than without the tax abatement.

From an economic standpoint, tax abatements are considered a zero sum game: they merely move economic activity from one place to another without affecting growth on a national scale (Loveridge and Nizalov, 2007). The tax abatements granted to Delphi for the proposed project would create beneficial impacts from the creation of jobs and the eventually expanded tax base. However, moderate adverse impacts to socioeconomic resources would result from failures to achieve aims of the tax abatements; and by shifting the burden to other taxpayers in the short-term and to the local government in the long-term.

Conclusion

Delphi anticipates that both the temporary construction jobs and long-term jobs can be filled from local or nearby communities. Thus, Delphi's proposed project would not require an influx of workers and employees that could increase the population, change the demographics of the project area, or potentially overburden finite community resources, such as schools, housing, health facilities, or law enforcement capabilities. Long-term beneficial impacts would occur by creating and retaining jobs and expanding the tax base. However, the tax abatements granted to Delphi would impose a marginally higher tax burden for other property owners and eventually the local government and therefore create minor impacts on socioeconomic resources. Overall, impacts from implementing this alternative would be minor adverse and beneficial, but less than the significance threshold.

4.6.3 Effects of the No-Action Alternative

If the CTC and KMS manufacturing facility were not built, the opportunity to create short-term construction jobs, long-term manufacturing jobs, and increased economic activity would be lost. Without the tax abatements property owners would not be imposed with the marginally higher tax rate. The tax abatements

granted for the new investments increase the tax base in the long term. While this alternative would represent a lost opportunity for a relatively small number of jobs and income in the community, it would not worsen current conditions and therefore the impacts would be less than the significance threshold.

4.6.4 Cumulative Effects

There are potential cumulative impacts to socioeconomic resources from the combination of actions proposed by Delphi, as well activities of others – especially those of Chrysler and GM – in Kokomo city and the larger Howard County. According to Howard County's assessor, the net assessed value for all of Howard County is $3.4 billion for 2010 taxes payable in 2011. Not taking into account tax abatements and other factors that would affect the AV, the DOE-Delphi combined overall investment (including labor and materials, as well as plant and capital equipment) is 5.25 percent of that total (IED, 2010e).

Current and reasonably foreseeable activities involving Chrysler would have short-term minor to moderate adverse impacts, and the same types of beneficial impacts as those associated with Delphi's proposed project. The total net assessed real and personal property values for the four Chrysler plants in Kokomo is currently $950 million, or $651 million after tax abatements are considered (IED, 2010e). Chrysler's $1.2 billion infusion in 2010 represents 35 percent of Howard County's net assessed value.

Current and continuing activities at GM would have short-term moderate adverse impacts, and the same types of beneficial impacts as those associated with the Delphi's proposed project. General Motors Component Holdings (GMCH) filed amended personal property values to lower the assessed value of property from $253.8 million to $7.4 million: the price paid for the equipment bought from Delphi Electronics and Safety in 2009 upon their exit from bankruptcy. The assessed value for the same personal property submitted by Delphi for 2009 taxes payable in 2010 was $217.9 million; and the tax liability paid by Delphi for the 2009 tax year was $5,173,926. GMCH would be paying $223,590 for the 2010 tax year, a decrease in revenue to local units of government of $4,950,336. The five taxing units that would be hardest hit are all located in the city of Kokomo taxing district, including Center, Clay, Harrison, Howard, and Taylor townships. The increase would also impact the Kokomo-Center, Taylor, Northwestern, and Western school districts. The reduction in assessed value would account for approximately 50 percent of the property tax increase of residents in 2011 (IED, 2010d). Howard County has hired Tax Management Associates to perform extensive audits on – according to an auditor – companies that have personal property assessed value higher than $50,000 and those companies that have filed an appeal (TMA, 2011). If assessed value is based on the fair market value of the equipment, GMCH's 2011 taxes payable for 2012 would increase and then remove the increased tax liability from the Kokomo Townships and greater Howard County.

Delphi's proposed project would not add significantly to local economic developmental pressures in the Kokomo community, since the CTC facility is within the existing Delphi footprint and the Morgan Street facility included a retrofit (as opposed to construction) of an existing facility. The Chrysler projects listed in Table 1.4 are also expansions or changes at existing plants, which reduces impacts. The U.S. 31 relocation project listed in Table 1.4 would contribute some to cumulative impacts, but the construction jobs and related jobs would be temporary, reducing cumulative impacts. Potential incremental cumulative economic impacts exist with regards to the tax abatements and reasonably foreseeable projects affecting the same socioeconomic resources. However, Delphi's proposed project alone is not large enough to increase demand for goods and services that would trigger further direct economic development in the community.

4.7 Environmental Justice

EO 12898 directs that "…each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…" According to the USEPA, "Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (USEPA, 2010a).

The CEQ defines minority as including the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic Origin; or Hispanic (CEQ, 1997). An environmental justice population is defined as a population comprised of at least half minority status or at least half low-income status, or whose representation of these categories is greater than the general population in a meaningful way.

4.7.1 Description

In 2005-2009, 85 percent of the Kokomo city population was White non-Hispanic; and 89 percent of the Howard County population was White, non-Hispanic. Kokomo city and Howard County had similar percentages of minority residents compared to Indiana as a whole all of which had a lower percentage of minority residents compared to the National average. Since the Kokomo city and Howard County populations do not comprise of at least half minority status, they do not qualify them as an environmental justice population under this definition (Census, 2009a; Census, 2009b; Census, 2009c; Census, 2009d).

According to the U.S. Department of Health and Human Services (USDHHS), the 2009 poverty threshold was defined as a maximum annual income of $18,310 or less for a

family of three (USDHHS, 2009). In 2009, 19.7 percent of all families in Kokomo were in poverty; and 22 percent of all people were in poverty (See Table 4.7.1). In 2009, 13.3 percent of all families in Howard County were in poverty and 15.9 percent of all people were in poverty. Representation of poverty in both Kokomo city and Howard County were greater than state and national averages. Representation of poverty in Kokomo city was nearly 10 percent greater than state and national figures; representation of poverty is greater than the general population in a meaningful way and therefore qualifies Kokomo city as an environmental justice population (Census, 2009a; Census, 2009b; Census, 2009c; Census, 2009d).

Table 4.7.1. Level of Poverty in Kokomo City, Howard County, Indiana, and Nation

Persons in poverty (%)	Kokomo City	Howard County	State of Indiana	United States
All families in poverty	19.7	13.3	9.5	9.9
All people in poverty	22	15.9	13.2	13.5

Sources: (Census, 2009a; Census, 2009b; Census, 2009c; Census, 2009d)

4.7.2 Effects of Delphi's Proposed Project

Minority and low-income populations do not represent a significantly high proportion of the population in Kokomo city or Howard County. However, low-income populations in Kokomo do represent a substantially higher proportion of the total population than that for the surrounding Howard County, Indiana, and the U.S. While some potential for temporary adverse impact to all population segments may exist during the construction phase of this project, a uniquely high concentration of low-income populations does not exist in the immediate site vicinity.

Implementation of Delphi's proposed project would result in beneficial socioeconomic impacts to all populations resident in Kokomo City and would not expose any populations to any adverse environmental effects, as described in this EA. Therefore, implementation of this alternative would increase economic activity and would not be expected to expose low-income populations to any disproportionately high or adverse environmental or social impact. The effects would not exceed the significance threshold.

4.7.3 Effects of the No-Action Alternative

If the CTC engineering laboratory and KMS manufacturing facility were not built, no change would occur in the existing Delphi footprint. Since ongoing activities would be essentially the same as those already occurring, no significant additional change in the community character and setting or socioeconomic resources would be anticipated. These opportunities would be lost to all resident populations irrespective of socioeconomic status, so current operations would be expected to have no effect on the low-income population in Kokomo city.

4.7.4 Cumulative Effects

The construction of the CTC laboratory and KMS manufacturing facility as well as the projects listed in Table 1.4 would be expected to have a beneficial effect on the socioeconomic resources of Kokomo city and Howard County. As such, any incremental impact would be expected to be beneficial and would most likely be experienced evenly across all populations, which means no adverse cumulative impact to environmental justice.

4.8 Infrastructure/Utilities

4.8.1 Description

Surrounding roads include U.S. 35 and 31 and State Roads 26, 22, 18 and 19 (See Figure 2.1 inset). U.S. 35 is generally a two-lane highway except in Interstate Highway concurrencies and in sections around Muncie, Kokomo, Knox, Laporte, and Michigan City where U.S. 35 is a multi-lane road (Indiana Highway Ends, 2011a). While State Roads 22 and 19 are relatively small, State Road 26 is a major primary road way because it connects Lafayette and Kokomo and is part of the National Highway System (Indiana Highway Ends, 2011b). The Delphi facility is adjacent to Goyer Road and Lincoln Road.

There is currently no infrastructure on the direct site of Delphi's proposed CTC project. Contained within the property boundary of Delphi's proposed project is the existing CTC building. Several parking lots are also contained within the property boundary. General Motors Components Holding-owned buildings are present in the surrounding area of the property boundary. These include the Engineering Resource Center (ERC) and Integrated Circuit Fabrication (Fab III) buildings. Other infrastructure includes sidewalks and an elevated walkway between the existing CTC and Fab III (Delphi, 2010b). The current conditions of the utility services in these existing building surrounding Delphi's proposed project site are described below in Table 4.8.1-1 (Delphi, 2010c).

Table 4.8.1-1. Building Utility Services Current Condition

Utility Service	Utility Service
Electricity	ERC and CTC fed from Fab III Basement. Fab III Basement fed from Goyer Road substation.
Chilled Water (Air Conditioning (A/C))	Fab III generates CW for its use as well as for CTC and ERC.
Hot Water (heat)	Boilers in Fab III generate steam/hot water for its use as well as for CTC/ERC.
Compressed Air and Nitrogen	Compressed air is fed to ERC/CTC from Fab III. Nitrogen is fed to ERC/CTC from Plant 8.
City Water	CTC has its own feed from the utility, ERC is fed from Fab III
Fire Protection Water	ERC fed from Manufacturing System; CTC is a standalone system
Natural Gas	Not available in CTC; not used in ERC
Sanitary/Process Waste	CTC drains directly to the City of Kokomo; ERC drains thru the manufacturing area/waste treatment and out to the City of Kokomo
Stormwater	CTC and ERC flow directly to the city system

Please note that the CTC mentioned in the above table is the existing CTC.

Retrofits would be made to the facility located at 1501 E. Road 200 North, Kokomo Indiana. This facility is located near U.S. 35 and between U.S. 31 and Cooper Street. This area consists of a former WIS Sheet Metal building that would be retrofitted and stocked with new equipment to transform the building to fill the purpose of Power Electronics manufacturing and engineering and validation labs. Current utility usage for this building is show in Table 4.8.1-2 (Delphi, 2011a).

Table 4.8.1-2. Utility Usage in 2010

Months	Electricity (Usage) (Kilowatt Hour (kWh))	Natural Gas (Usage) (Therm)	Water Service (Usage) (100 Cubic Feet (CCF))	Sewerage (Usage) (CCF)
January	26,880	2,375	4	4
February	26,880	3,002	7	7
March	26,880	1,470	7	7
April	26,880	387	6	6
May	26,880	45	7	7
June	26,880	1	5	5
July	26,880	0	10	10
August	26,880	0	12	12
September	26,880	0	20	21
October	26,880	60	36	35
November	26,880	646	16	15
December	26,880	1,915	11	7
Total	**322,560**	**9,902**	**141**	**136**

Source: (Delphi, 2011a)

Data presenting the 2011 electricity, natural gas, water service, and sewerage has been presented from January through April. This data is displayed in Table 4.8.1-3 (Delphi, 2011b). When compared to figures from 2010 there was a large increase in electricity and water service while natural gas and sewerage usage remained at a comparable level to those of 2010.

Table 4.8.1-3. Utility Usage in January through April of 2011

Months	Electricity (Usage) (kWh)	Natural Gas (Usage) (Therm)	Water Service (Usage) (CCF)	Sewerage (Usage) (CCF)
January	158,243	1,569	16	16
February	178,974	1,634	31	16
March	301.806	1,041	29	0
April	301.863	343	10	0
Total	**1,000,886**	**4,587**	**86**	**32**

Source: (Delphi, 2011b)

4.8.2 Effects of Delphi's Proposed Project

Characterization of the infrastructure and utilities within the project area focuses on the ability of these elements to serve existing demand as well as any increase that may result from implementation of the proposed project.

The project would involve the construction and operation of site improvements (roads, parking, buildings, landscaping, and lighting), which specifically includes a small utilities building, containing boilers, heaters, and a large engineering laboratory. The location of this infrastructure can be seen in Figure 4.8.2. Delphi's proposed project would also consist of the demolition of the elevated walkway located between the existing CTC and Fab III building and restoration of the exteriors (Delphi, 2010b).

Utilities supplied to the Engineering Laboratory Building would reflect those supplied to the existing infrastructure in the property boundary. This includes electricity, chilled water (A/C), hot water (heat), compressed air and nitrogen, city water, fire protection, sanitary/process waste, and storm water services (Delphi, 2010c). The Utility Building would house the necessary equipment to supply the Engineering Laboratory Building and CTC with the necessary utilities for operation. This includes air compressors, chillers, boilers, switchgear and other equipment used to supply electricity, chilled water (A/C), hot water (heat), and compressed air and nitrogen.

The KMS building would continue to be serviced by Kokomo Gas and Fuel for natural gas. Natural gas usage is lowest during the summer months and highest the winter months. It is anticipated that natural gas usage would continue to follow this trend. Electricity would continue to be supplied by Duke Energy. Greatest electricity usage would be in the summer months. Water would continue to be supplied by Indiana America. The amount of water used would remain relatively constant throughout the year. Sanitary Sewer service would continue to be supplied by Kokomo Municipal Wastewater Treatment. Similarly, to the water service, sanitary sewer service would remain relatively constant throughout the year (Delphi, 2011a).

At the KMS location, two small pre-fabricated buildings would be erected. These buildings would house chillers and power equipment (Delphi, 2010a).

Only a small proportion of the new vehicle trips would occur during peak traffic periods. These small increases in traffic would not affect the capacity of any of the nearby roadway segments or intersections. The personnel in the facilities would not substantially change the number of daily trips, the times of travel, or the level of impact under NEPA.

The project would not noticeably affect or disrupt the normal or routine functions of public institutions, roads, electricity, and other public utilities and services in the project area. There would be limited potential to alter or disturb power or other infrastructure services to the area because of Delphi's proposed project. Therefore, overall impacts would be less than the significance threshold.

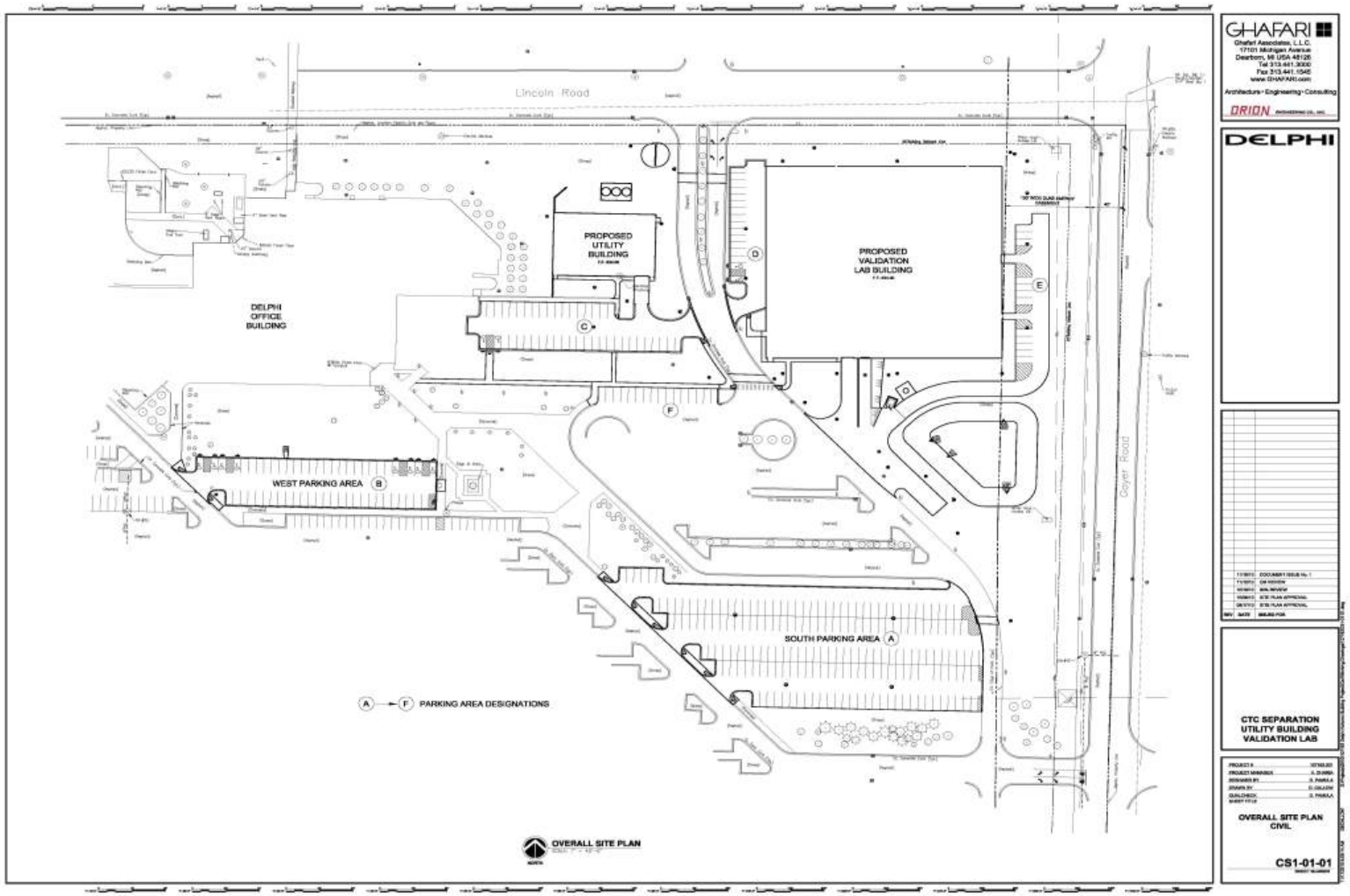


Figure 4.8.2. Proposed CTC Project Site Plan
Source: (Renner, 2011h)

4.8.3 Effects of the No-Action Alternative

Selecting the no-action alternative would result in no impact to infrastructure and utilities. There would not be any construction of new facilities or changes in existing facility operations. The setting would remain unchanged when compared to the existing conditions.

4.8.4 Cumulative Effects

Cumulative impacts from Delphi's proposed project when added to other past, present, and reasonably foreseeable future actions would be minimally adverse and are not expected to exceed the threshold of significance. The Chrysler projects, listed in Table 1.4, would have similar impacts to Delphi's due to the similarity in types of projects, but the facilities are far enough away from each other and of a size that interactive impacts would be unlikely. The U.S. 31 relocation listed in Table 1.4 including the related realignments of U.S. 35 would actually improve infrastructure by reducing congestion (Indiana Highway Ends, 2011a).

4.9 Noise

Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, the distance between the noise source and the receptor, receptor sensitivity, and time of day.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz (Hz) are used to quantify sound frequency. The human ear responds differently to different frequencies. A-weighting, described in A-weighted decibels (dBA), approximates this frequency response to express accurately the perception of sound by humans. Sounds encountered in daily life and their approximate levels in dBA are provided in Table 4.9.

Table 4.9. Common Sounds and Their Levels

Outdoor	Sound level (dBA)	Indoor
Snowmobile	100	Subway train
Tractor	90	Garbage disposal
Noisy restaurant	85	Blender
Downtown (large city)	80	Ringing telephone
Freeway traffic	70	TV audio
Normal conversation	60	Sewing machine
Rainfall	50	Refrigerator
Quiet residential area	40	Library

Source: (Harris, 1998).

The dBA noise metric describes steady noise levels. Very few noises are, in fact, constant, so a noise metric, day-night sound level (DNL) has been developed. DNL is defined as the average

sound energy in a 24-hour period with a 10-dB penalty added to nighttime levels (10 p.m. to 7 a.m.). DNL is a useful descriptor for noise because it averages ongoing yet intermittent noise, and it measures total sound energy over a 24-hour period. In addition, equivalent sound level (L_{eq}) is often used to describe the overall noise environment. L_{eq} is the average sound level in dB.

The Noise Control Act of 1972 (Public Law 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. In 1974, the USEPA provided information suggesting that continuous and long-term noise levels in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals. No noise regulations are maintained by the State of Indiana, Howard County, or the City of Kokomo.

4.9.1 Description

Existing sources of noise near the Delphi CTC site include highway and local road traffic, rail traffic, high altitude aircraft, and natural noises such as leaves rustling and bird vocalizations. The site is one-half mile east of U.S. Highway 31 and is within one mile of two north-south rail corridors. There are no nearby airfields.

Existing noise levels (DNL and L_{eq}) were estimated for both sites and surrounding areas using the techniques specified in the *American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound Part 3: Short-term measurements with an observer present* (ANSI, 2003). Table 4.9.1 outlines the closest noise-sensitive areas such as residents, schools, churches, and hospitals, and the estimated existing noise levels at each location. Notably, the area is primarily commercial although there are residences and a childcare center within one-half mile of the site.

Table 4.9.1. Estimated Existing Noise levels at Nearby Noise-Sensitive Areas

Site	Closest noise-sensitive area			Estimated existing sound levels (dBA)		
	Distance	Direction	Type	DNL	L_{eq} (Daytime)	L_{eq} (Nighttime)
Proposed Parking Areas	618 ft (188 meters (m))	South	Childcare Center	55	56	50
	500 ft (152 m)	West	Residence			
	1,700 ft (518 m)	West	Church			
Laboratory Site	618 ft (188 m)	South	Childcare Center	58	58	52
	1,200 ft (366 m)	West	Residence			

Source: (ANSI, 2003).

4.9.2 Effects of Delphi's Proposed Project

Short-term minor and long-term negligible adverse effects would be expected from implementing Delphi's proposed project. Short-term effects would be due to noise from construction activities. Long-term effects would be due to minute changes in traffic patterns. The effects would not exceed the significance threshold.

Delphi's proposed project would require the construction of new facilities. Individual pieces of construction equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet (Table 4.9.2). With multiple items of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of active construction sites. The zone of relatively high construction noise levels typically extends to distances of 400 to 800 feet from the site of major equipment operations. There are residences closer than 800 feet to the site that would experience appreciable amounts of noise during construction. Renovation activities at the KMS facility would be primarily interior to the building, and no appreciable amounts of noise would be expected. Given the temporary nature of the construction and renovation activities, these effects would be minor.

Table 4.9.2. Noise Levels Associated with Outdoor Construction

Construction Phase	dBA L_{eq} at 50 ft from Source
Ground Clearing	84
Excavation, Grading	89
Foundations	78
Structural	85
Finishing	89

Source: (USEPA, 1974).

Although effects would be minor, contractors would limit construction to primarily normal weekday business hours, and properly maintain construction equipment mufflers. Noise effects on construction personnel could be limited by ensuring that all personnel wear adequate personal hearing protection to limit exposure and comply with federal health and safety regulations.

Operations of the proposed laboratory facilities and the KMS facility would not generate disruptive noise levels at the adjacent noise sensitive areas. All equipment that generates noise would be completely enclosed in the proposed laboratory facilities or the KMS facility. In the final design stages, care would be taken to ensure compliance with all noise regulations. Minute changes in traffic volumes and patterns would have a negligible adverse effect on the noise environment. Future noise levels due to the Delphi's proposed project would not be distinguishable for existing levels.

4.9.3 Effects of the No-Action Alternative

Selecting the no-action alternative would result in no effect on the ambient noise environment at either location. No construction would be expected. Ambient noise conditions would remain as described in Section 4.9.1.

4.9.4 Cumulative Effects

Delphi's proposed project would introduce short-term incremental increases to the noise environment. These changes would be minor and temporary. Table 1.4 would have similar impacts during construction and little interactive impacts due to the distances between the sites. Therefore, cumulative impacts from the Delphi's proposed project when added to other past, present, and reasonably foreseeable actions would be less than significant.

4.10 Human Health and Safety

4.10.1 Description

A primary concern to human health and safety within the project area would be industrial accidents. Although Delphi's proposed project would be using innovative technology, retrofitting the KMS facility, the utility shed, and the new buildings' construction and operations would not present unusual risks for the workers due to safety protocols and federal regulations in place. Construction site safety is largely a matter of adherence to regulatory requirements. These regulatory requirements are imposed for the benefit of employees and they implement operational practices that reduce risks of illness, injury, death, and property damage. The OSHA issues standards that specify the amount and type of safety training and education required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits with respect to workplace stressors (29 CFR 1910). Thus, the workers on the project would be subject to the same types of health risks that are generally associated with their professions. The 2008 construction incident rate of total recordable cases of non-fatal occupational injuries and illnesses was 4.7 per 100 full-time workers. The 2008 motor vehicle electrical and electronic equipment manufacturing industry had an incidence rate of 3.7 per full-time workers for total recordable cases of non-fatal occupational injuries and illnesses (BLS, 2009a).

Air, noise, and spill pollutants are a human health and safety problem for employees as well as the general public. Risks from air pollution include throat irritation, nausea, cancer, and damage to the nervous, respiratory, and reproductive systems. Federal and state regulations set ambient air quality standards for the maximum allowable atmospheric concentrations that may occur while still protecting public health (See Section 4.1). In addition, OSHA regulations set exposure limits (29 CFR 1910.1000) and specify appropriate protective measures for all employees.

Risks from noise pollution include hearing loss, sleep disturbances, cardiovascular, and psychophysiological problems (CDCP, No date). Federal and state regulations set noise emission control standards (42 USC 4901) (See Section 4.9), and OSHA regulations set exposure limits for all employees (1910.95).

Spills from the construction of Delphi's proposed project and its operation could also be a source of possible impacts to human health and safety. Spills can introduce soil contamination and exposure pathways to workers and the public. Soils contaminated can be transported by surface water runoff (USEPA, 2011c), increasing the risk of exposure. The risks and effects of a spill

depend on the chemical's composition. Similarly, waste management also is a source of possible human health and safety risks from exposure to contaminants (See Section 4.11).

4.10.2 Effects of Delphi's Proposed Project

The objective of Delphi's proposed project is to construct and operate facilities at two proposed sites in Kokomo, IN. As a part of a program to ensure the safety of employees, Delphi has a Common Core Elements (CCE) Delphi Business Systems (DBS) Common Procedure Requirement manual in place at all its facilities. Delphi Kokomo also follows several Safety Health & Environmental Practices (SHEPs), which detail requirements of several items in the CCE. These safety requirements and guidelines include Injury Illness Tracking, Analysis and Resolution, Emergency Control Plan, Design-In Health and Safety, Industrial Hygiene Risk Management, Construction Contractor Health and Safety Process, Personal Protective Equipment, and Pedestrian Safety.

If Delphi's proposed project were implemented, the equipment and operations used in the project should only present minimal risks to human health and safety when operated under normal conditions and equipment is maintained. All personnel would be trained regarding the safety measures and procedures (such as handling hazardous materials) associated with the job. All necessary safety equipment would be worn during operating hours or while on the premises. If necessary, the Delphi CCE and SHEPs would be updated. Thus, if BMPs, maintenance, and regulations were followed, there would be no impacts to human health and safety.

Delphi's proposed project would cause some increase in traffic, which increases the potential for accidents. The expected increase in the number of trips to Delphi's proposed project from the current level of vehicle activity is below the significance threshold. Site improvements include modifying the existing roads near the sites so that roads near the sites would be able to handle the increase in vehicles associated with this project. Thus, the impact to human health and safety from the increase in transportation is not expected to exceed the level of significance threshold and would be below the significance level for Human Health and Safety.

Air emissions from Delphi's proposed project are anticipated to be less than significant (See Section 4.1). Following mitigation measures and BMPs would reduce any impacts to human health from air quality. Further, workers would follow OSHA procedures, which would further reduce the impact to human health. Therefore, the impacts from air emissions would be below the significance threshold as long as safety procedures are followed. Noise emissions from Delphi's proposed project are anticipated to be less than significant (See Section 4.9). Following regulations and BMPs would reduce any impact to human health from noise quality.

The soils are not highly erodible (See Section 4.2); therefore, water contamination from increased runoff, which could lead to human health and safety risks, is not a major issue. If significant changes were to occur to stormwater runoff, a new or modified NPDES permit would be required. Further, a SWPP plan is currently in place for surface water runoff (See Section 4.3). Therefore, the overall effect of Delphi's proposed project to surface water quality would not be expected to exceed the significance threshold. If safety procedures and BMPs were

followed, spills and leaks from equipment and processes (other than the hazardous wastes) would be of small volumes as well as nonhazardous and nontoxic.

This would represent a low risk to human health and safety. Under normal conditions, hazardous and toxic materials can be used safely when appropriate safety precautions are followed. Some hazardous materials would be used/created during the project but in quantities small enough to maintain small generator status. All generated waste materials would be handled and disposed in accordance with applicable regulations (See Section 4.11).

With regard to the handling of hazardous materials, Delphi effectively controls chemicals and exposure through its Hazardous Materials Control Program developed to protect health, safety and the environment for employees and the general public. Delphi's Hazardous Material Control Committee (HMCC) includes individuals who have expertise in Health & Safety and Industrial Hygiene. Any proposed use of a new chemical must be reviewed and approved by the HMCC.

Appropriate monitoring equipment and systems that are consistent with all regulations would be in place for the materials and wastes produced. As a further precaution, and when necessary as required by regulatory mandate, the local communities and other relevant agencies would be notified of the materials present so that appropriate emergency plans could be modified (See Section 4.11).

Facility decommissioning would represent the same types of risks as the operation. Thus, with proper safety procedures, the impact to human health and safety should be minimal. Appropriate adherence to regulations would minimize the risks present with project implementation. Therefore, the overall impact to human health and safety would not be expected to exceed the significance threshold.

4.10.3 Effects of the No-Action Alternative

Under the no-action alternative, there would be no construction or operation of Delphi's proposed project. Thus, none of the risks listed in the previous section would occur, which would mean no impacts to human health and safety. The exception would be the fact that Delphi's proposed project's purpose, which is to further the research and manufacture of advanced electric drive systems while providing economic stimulation, would not be implemented. However, many other projects are in operation or being proposed to assist in the EDV technology and stimulate the economy. Even though the no-action alternative does represent some risk to human health and safety, impacts to human health and safety would be expected to be below the significance threshold.

4.10.4 Cumulative Effects

The cumulative impacts of existing activities in and around the project area, including projects listed in Table 1.4, do not represent a substantial risk to human health and safety with existing and upcoming mitigation and safety procedures in place. In fact, one of the U.S. 31 project's goal is to reduce accidents (IDOT, No date). Further, Delphi's proposed project would contribute minimally to cumulative impacts due to the minimal risk to human health and safety

with BMPs and regulations in place. Therefore, the cumulative impacts with implementing Delphi's proposed project would not be expected to exceed the significance threshold.

Since the current projects in the area do not pose a substantial risk to human health and safety, the no-action alternative does not represent any additional risks to human health and safety. As described in the previous section, the exception is no-action alterative could have an adverse impact on the progress towards solutions for electric drive system manufacturing and economic stimulus. However, since this is a single project of many, the cumulative impacts to human health and safety for the no-action alternative are not expected to exceed the threshold of significance.

4.11 Waste Management

4.11.1 Description

Hazardous waste and materials are substances that can pose a potential hazard to human health or the environment when improperly managed. There were two areas within the property boundary that had the potential for contamination issues. One area is located on the east side of the existing Delphi CTC office building where an existing above-ground diesel tank sits on top of a vault that had previously contained a below-ground tank. The second area is in the basement of the Delphi CTC office building where there was once an oil/water separator. The two sites were investigated in December 2010, with oversight by the IDEM. The report came back determining the sites were safe for residential use. In addition, eight geotechnical borings at the site were screened for evidence of contamination and IDEM found nothing of concern. IDEM determined that no further action is required at the CTC parcel (Renner, 2011i). IDEM wrote a letter outlining their findings on the CTC parcel. This letter is contained in Appendix E.

The RCRA, 42 USC § 6901 *et seq.*, regulates the treatment, storage, and disposal of solid and hazardous wastes. RCRA sets "cradle to grave" standards for both solid waste and hazardous waste management. RCRA regulations are found in 40 CFR Parts 239-282. Indiana has been delegated RCRA authority under Title 329, Solid Waste Management Board of the Indiana Code (USEPA, 2011d).

The Pollution Prevention Act, 42 USC § 13101 *et seq.*, establishes a national policy for waste management and pollution control that focuses first on source reduction, and then on environmentally safe waste recycling, treatment, and disposal. Three executive orders provide guidance to agencies to implement the Pollution Prevention Act: Executive Order 12873, "Federal Acquisition, Recycling, and Waste Prevention," Executive Order 13101, "Greening the Government through Waste Prevention, Recycling, and Federal Acquisition," and Executive Order 13148, "Greening the Government through Leadership in Environmental Management" (USEPA, 2011e). The Indiana Recycling Market Development Board was established in Title 4 Article 23 Chapter 5.5 of the Indiana Code.

4.11.2 Effects of Delphi's Proposed Project

An assortment of hazardous materials would be held on site in the proposed Validation Lab Building. These would consist mostly of lab chemicals, which would be used in the lab during component or system development and testing. These chemicals would be stored in accordance with safety regulations. Appendix F lists these hazardous materials as well as the areas in which they would be stored. See Section 2.1 for the description of wastes created by Delphi's proposed project and how they would be handled.

Small amounts of potentially hazardous waste materials (e.g., waste oils, lubricants, solvents, cleaners, paints) would be generated during the construction of the Utility and Validation Lab Buildings (USEPA, 2005a). Proper use and storage of the materials would ensure no impact to workers and the environment. Use or storage of hazardous materials onsite during construction would be in accordance with applicable regulations, and appropriate spill prevention measures would be implemented. If hazardous materials are spilled or deposited on the site during or after construction, the responsible party would immediately notify appropriate regulatory parties, take all necessary actions to clean up and properly dispose of the materials, and complete all reporting requirements (Delphi, 2010a).

The KMS facility, which was formerly a WIS Sheet Metal building, would be retrofitted. These retrofits would include new machinery and building updates. During this process there would be an increase in solid wastes such as old or scrap building materials and outdated equipment (Delphi, 2010a).

Hazardous wastes that would be generated, used, or stored under Delphi's proposed project include conformal coat waste, wipes and rags with lead, lead solder/alcohol mix, and alcohol/liquid waste. Waste would be disposed of off-site at a state permitted subtitle D landfill. If hazardous waste would require offsite disposal, arrangements have been made with Allegiant Global Services, a certified treatment, storage, and disposal facility (Delphi, 2010a).

Any solid waste produced by retrofitting, construction, demolition, and/or land clearing would be properly disposed of at a permitted solid waste acceptance facility, and recycled where possible. All of the hazardous materials used during and post construction would be stable and would be contained. They would pose no hazard to the building's occupants under standard conditions (Delphi, 2010a).

During demolition of the walkway at the CTC facility, there could be negligible, direct, short-term, adverse impacts on public health and the environment from hazardous materials, wastes, or other constituents.

Increases in office trash would be expected with the additional employees needed to operate the new facilities. Most of the non-hazardous solid waste generated would be recycled, and thus, the amount of solid waste requiring disposal generated by the new development, validation, and manufacturing processes would have a negligible impact on the volume received at the transfer stations for disposal in landfills (Delphi, 2010a).

Currently, Delphi CTC is listed as a Small Quantity Generator while the KMS is listed as a Conditionally Exempt Small Quantity Generator (USEPA, 2011f; USEPA, 2011g). KMS produces under the 220 pounds (lbs) maximum monthly limit for this status. If the facility increases their amount of hazardous waste produces and stores it onsite for extended periods of time, a Hazardous Waste Permit from the IDEM would have to be filed. The purpose of this permit is to protect and enhance the quality of Indiana's environment and protect the public health, safety, and well-being of its citizens. This article establishes a hazardous waste management program consistent with the requirements of the RCRA (Public Law 94-580, 42 USC 6901 et seq.), as amended and regulations promulgated pursuant to RCRA (USEPA, 2010b).

The action, along with planned mitigation measures, would not cause air, water, or soil to be contaminated with hazardous material that poses a threat to human or ecological health and safety. With proper BMPs in place, overall impacts to waste management from implementing this alternative would be expected to be less than the significance threshold.

4.11.3 Effects of the No-Action Alternative

Under the no-action alternative, DOE would not provide funds to the proposed projects. Implementation of the no-action alternative would result in no greater exposure to hazardous materials than is currently present at the existing facility.

4.11.4 Cumulative Effects

Increased manufacturing of parts for electric drive vehicles would have a cumulative beneficial effect on the environment from improved electric drive vehicles. Cumulative impacts from the proposed project when added to other past, present, and reasonably foreseeable future actions, including projects in Table 1.4, would be minimally adverse and are not expected to exceed the threshold of significance due to regulations in place and distances between the sites.

4.11.5 Mitigation

Delphi has developed mitigation measures to control hazardous materials. These procedures are under the Hazardous Materials Control Program. The purpose of this procedure is to establish the requirement for the management and control of hazardous materials. The Hazardous Materials Control Program Procedures are shown in Appendix G.

4.12 Climate and Sustainability

4.12.1 Description

EO on Federal Sustainability issued on 5 October 2009, states in part that it is the policy of the federal government “to create a clean energy economy” and that

> “Federal agencies shall increase energy efficiency; measure, report, and reduce their greenhouse gas emissions from direct and indirect activities; conserve and protect water

> resources through efficiency, reuse, and storm water management; eliminate waste, recycle, and prevent pollution; … design, construct, maintain, and operate high performance sustainable buildings in sustainable locations; and strengthen the vitality and livability of the communities in which federal facilities are located."

Section 2(f)(iv) of the EO states that … each agency shall

> "advance regional and local integrated planning by … identifying and analyzing impacts from energy usage and alternative energy sources in all Environmental Impact Statements and Environmental Assessments for proposals for new or expanded federal facilities under the National Environmental Policy Act of 1969, as amended (42 USC 4321 et seq.)."

4.12.2 Effects of Delphi's Proposed Project

Delphi's proposed project reviewed by this EA is part of a larger national effort to move this country to a more sustainable future. Efforts are underway to begin the move from non-renewable fuel sources to renewable fuel sources to power our economy. A major part of that non-renewable fuel use is in personnel transportation and the use of internal combustion engines in our automobiles. A shift to electric drive vehicles can be viewed as viable means to a more sustainable future.

Delphi has accepted a role in this national move to a sustainable future. The action proposed and reviewed in this EA is a part of that effort. If initiated, not only would this project assist in the development of the viable use of electric drive vehicles; Delphi also would implement specific project designs that would increase the sustainability of Delphi's proposed project.

Delphi recycles all the typical materials such as cardboard, scrap wood, aluminum cans, plastic bottles, office paper, scrap circuit boards, scrap solder paste, and batteries of all types. They have a corporate policy on sustainability that includes Life Cycle Assessments for new products that would help them understand the environmental burdens and help them make changes in their products and processes (Renner, 2011i).

Delphi has a local "Upfront Engineering" group that makes sure that equipment being designed for use and brought in to the site is energy efficient, safe, and well designed (Renner, 2011i).

Delphi also has had an aggressive energy program since early 2000. As a result of this internal initiative, the company continues to reduce energy usage and in turn meet internally established energy and corresponding greenhouse gas targets. Delphi has also focused significant effort on the efficiency of other resource dependent processes and production products. As economically feasible opportunities have been made available, Delphi has procured green energy alternatives. In addition, all manufacturing equipment is evaluated for its energy consumption and evaluated against competitive equipment. Through the purchasing process, Delphi is beginning to require primary suppliers to implement green sustainability programs. It is the goal of Delphi to drive down through the supply chain the sustainability initiatives that Delphi sees as important (Renner, 2011j).

The effects of this alternative are likely to be adverse and direct. Taken together, these results do not reach or exceed the threshold level of significance.

4.12.3 Effects of the No-Action Alternative

No effects would be expected. Implementation of the no-action alternative would not alter the level of sustainability at the site. There would be no impacts.

4.12.4 Cumulative Effects

Implementation of the no-action alternative would not have any impacts on sustainability. Thus, there would be no contribution to cumulative impacts from this alternative.

Delphi's proposed project has no direct impacts on sustainability. The projects listed in Table 1.4 do not have direct impacts on sustainability due to the lack of sustainable design features. The alternatives, therefore, would contribute negligible adverse cumulative impacts on sustainability.

Greenhouse Gas and Global Warming

According to the International Panel on Climate Change (IPCC), a worldwide environmental issue is the likelihood of changes in the global climate as a consequence of global warming produced by increasing atmospheric concentrations of GHGs (IPCC, 2007a). The atmosphere allows a large percentage of incoming solar radiation to pass through to the earth's surface, where it is converted to heat energy (infrared radiation) that is more readily absorbed by GHGs such as CO_2 and water vapor than incoming solar radiation. The heat energy absorbed near the earth's surface increases the temperature of the air, soil, and water (Phycal, 2011).

GHGs include water vapor, CO_2, methane, nitrous oxide, ozone, and several chlorofluorocarbons. The GHGs constitute a small percentage of the earth's atmosphere. Water vapor, a natural component of the atmosphere, is the most abundant GHG. The second-most abundant GHG is CO_2, which remains in the atmosphere for long periods of time. Due to man's activities, atmospheric CO_2 concentrations have increased approximately 35 percent over preindustrial levels. Fossil fuel burning is the primary contributor to increasing concentrations of CO_2 (IPCC, 2007a; Phycal, 2011).

According to the IPCC fourth assessment report, "[w]arming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level" (IPCC, 2007b). The IPCC report finds that the global average surface temperature has increased by approximately 0.74 degrees Celsius (°C) in the last 100 years; global average sea level has risen approximately 150 millimeters over the same period; and cold days, cold nights, and frosts over most land areas have become less frequent during the past 50 years. The report concludes that most of the temperature increase since the middle of the twentieth century "is very likely due to the observed increase in anthropogenic [GHG] concentrations" (Phycal, 2011).

The IPCC 2007 report estimates that, at present, CO_2 accounts for approximately 77 percent of the climate change potential attributable to anthropogenic releases of GHGs, with the vast majority (74 percent) of this CO_2 coming from the combustion of fossil fuels (Phycal, 2011).

IPCC and the U.S. Climate Change Science Program (CCSP) examined the potential environmental impacts of climate change at global, national, and regional scales. IPCC's report states that, in addition to increases in global surface temperatures, the impacts of climate change on the global environment may include:

- More frequent heat waves, droughts, and fires.
- Rising sea levels and coastal flooding; melting glaciers, ice caps, and polar ice sheets.
- More severe hurricane activity and increases in frequency and intensity of severe precipitation.
- Spread of infectious diseases to new regions.
- Loss of wildlife habitats.
- Heart and respiratory ailments from higher concentrations of ground-level ozone (IPCC, 2007b; Phycal, 2011).

On a national scale, average surface temperatures in the United States have increased, with the last decade being the warmest in more than a century of direct observations (CCSP, 2008). Impacts on the environment attributed to climate change that have been observed in North America include:

- Extended periods of high fire risk and large increases in burned area.
- Increased intensity, duration, and frequency of heat waves.
- Decreased snow pack, increased winter and early spring flooding potentials, and reduced summer stream flows in the western mountains.
- Increased stress on biological communities and habitat in coastal areas (IPCC, 2007b; Phycal, 2011).

Over the 20th century, the northern portion of the Midwest, including the upper Great Lakes, has warmed by almost 4°F (2°C), while the southern portion, along the Ohio River valley, has cooled by about 1°F (0.5°C). Annual precipitation has increased, with many of the changes quite substantial, including as much as 10 to 20% increases over the 20th century. Much of the precipitation has resulted from an increased rise in the number of days with heavy and very heavy precipitation events. There have been moderate to very large increases in the number of days with excessive moisture in the eastern portion of the basin (USNA, 2000).

Because climate change is a cumulative phenomenon produced by releases of GHGs from industry, agriculture, and land use changes around the world, it is generally accepted that any successful strategy to address it must rest on a global approach to controlling these emissions. In other words, imposing controls on one industry or in one country is unlikely to be an effective strategy. And because GHGs remain in the atmosphere for a long time and industrial societies will continue to use fossil fuels for at least 25 to 50 years, climate change cannot be avoided. As IPCC report states, "[s]ocieties can respond to climate change by adapting to its impacts and by reducing [GHG] emissions (mitigation), thereby reducing the rate and magnitude of change" (IPCC, 2007b; Phycal, 2011).

According to the IPCC, there is a wide array of adaptation options. While adaptation will be an important aspect of reducing societies' vulnerability to the impacts of climate change over the next two to three decades, "adaptation alone is not expected to cope with all the projected effects of climate change, especially not over the long term as most impacts increase in magnitude" (IPCC, 2007b). Therefore, it will also be necessary to mitigate climate change by stabilizing the concentrations of GHGs in the atmosphere. Because these gases remain in the atmosphere for long periods of time, stabilizing their atmospheric concentrations will require societies to reduce their annual emissions. The stabilization concentration of a particular GHG is determined by the date that annual emissions of the gas start to decrease, the rate of decrease, and the persistence of the gas in the atmosphere. The IPCC report predicts the magnitude of climate change impacts for a range of scenarios based on different stabilization levels of GHGs. "Responding to climate change involves an iterative risk management process that includes both mitigation and adaptation, taking into account actual and avoided climate change damages, co-benefits, sustainability, equity, and attitudes to risk" (IPCC, 2007b; Phycal, 2011).

The main purpose of Delphi's proposed project is to accelerate the development and production of various electric drive vehicle systems by building or increasing domestic manufacturing capacity for advanced automotive batteries, their components, recycling facilities, and EDV components, in addition to stimulating the United States' economy. This work would enable market introduction of various electric vehicle technologies by lowering the cost of battery packs, batteries, and electric propulsion systems for EDVs through high-volume manufacturing. Expanded use of electric vehicle technologies would reduce reliance on petroleum fuels with a corresponding decrease in GHG produced by internal combustion engines. Overall, there would be a beneficial reduction in greenhouse gas emissions as the proposed project would help the viability of the commercial market for green energy products, thereby reducing the carbon footprint of the transportation sector.

5.0 CONSULTATION AND COORDINATION

A kick-off meeting was held on October 20, 2009, at NETL office in Morgantown, West Virginia with representatives from NETL and Mangi Environmental Group to begin formally the NEPA for the Electric Drive Vehicle Battery and Component Manufacturing Initiative projects. Mangi Environmental Group, NETL, and Delphi had a kick-off teleconference for the Delphi CTC and KMS project on January 28, 2011. Following that meeting, available information needed for completion of the EA was reviewed and data gaps were sent to NETL and Delphi.

5.1 Agency Coordination

The CEQ's regulations for implementing NEPA allows federal agencies to invite comment from tribal, state, and local agencies, as well as other federal agencies in the preparation of EAs. The purpose of this coordination is to obtain special expertise with respect to environmental and cultural issues in order to enhance interdisciplinary capabilities and otherwise ensure successful, effective consultation in decision-making. The below entities were contacted for this effort.

5.1.1 U.S. Fish and Wildlife Service (USFWS)

The mission of the USFWS is to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of American people. Consultation with USFWS also assists with the Endangered Species Act compliance.

See Appendix B for correspondence with this agency.

5.1.2 State Historic Preservation Office (SHPO)

The NHPA requires DOE to consult with the SHPO prior to any construction to ensure that no historical properties would be adversely affected by a proposed project. DOE must also afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the proposed project.

See Appendix C for correspondence with this agency.

5.1.3 Bureau of Indian Affairs

The American Indian Religious Freedom Act, 42 USC § 1996, establishes policy to protect and preserve the inherent and Constitutional right of Native Americans to believe, express, and exercise their traditional religions. The law ensures the protection of sacred locations; access of Native Americans to those sacred locations and traditional resources that are integral to the practice of their religions; and establishes requirements that would apply to Native American sacred locations, traditional resources, or traditional religious practices potentially affected by construction and operation of proposed facilities.

See Appendix D for correspondence with the Bureau of Indian Affairs.

5.1.4 Other Agencies

Other consultation letters are in Appendix H.

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8.0 GLOSSARY

Air-Quality Control Region - A contiguous area where air quality is relatively uniform. AQCRs may consist of two or more cities, counties or other governmental entities, and each region is required to adopt consistent pollution control measures across the political jurisdictions involved.

Ambient - The natural surroundings of a location.

Anode - The *anode* of a device is the terminal where electric current flows in.

Attainment Areas - A zone within which the level of a pollutant is considered to meet the National Ambient Air Quality Standards.

A-weighted Decibels - An expression of the relative loudness of sounds in air as perceived by the human ear.

Bedrock Geology - Rocks that are present under soil layers that form the base of a geographic location.

Best Management Practices - Methods or techniques found to be the most effective and practical means in achieving an objective (such as preventing or minimizing pollution) while optimally using the firm's resources.

Cathode - The *cathode* of a device is the terminal where current flows out.

Criteria Pollutants - The Clean Air Act requires USEPA to set standards for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are found all over the United States. They are particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead.

Cumulative Effects - Those effects on the environment that result from the incremental effect of the action when added to past, present and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions.

Day-night Sound Level - The A-weighted equivalent sound level for a 24-hour period with 10 dB added to levels between 10 p.m. to 7 a.m.

dB (Decibel) - A unit of measurement that expresses the magnitude of a physical quantity (usually intensity) relative to a specified or implied *reference level*. The decibel is useful for a wide variety of measurements in science (for this application, it is sound).

Demographics - The characteristics of human population and population segments, especially when used to describe consumer markets.

Dolomite - Sedimentary rock formed by calcium magnesium carbonate, found in areas of karst topography.

EA (Environmental Assessment) - A concise public document, prepared in compliance with the National Environmental Policy Act, that briefly discusses the purpose and need for an action, alternatives to such action, and provides sufficient evidence and analysis of impacts to determine whether to prepare an environmental impact statement or finding of no significant impact (40 CFR 1508.9).

Life Cycle Assessments - A technique to assess factors associated with all the stages of a product's life from-cradle-to-grave (i.e., from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance, and disposal or recycling).

EIS (Environmental Impact Statement) - A detailed written statement required by Section 102(2) (C) of the National Environmental Policy Act, analyzing the environmental impacts of a Delphi's proposed project, adverse effects of the project that cannot be avoided, alternative courses of action, short-term uses of the environment versus the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitment of resources (40 CFR 1508.11).

Electrolytes - In chemistry, an *electrolyte* is any substance containing free ions that make the substance electrically conductive.

Endangered Species - A species that is threatened with extinction throughout all or a significant portion of its range.

Environmental Justice - The confluence of social and environmental movements, which deals with the inequitable environmental burden borne by groups such as racial minorities, women, or residents of developing nations.

Equivalent Sound Level - The level of a steady-state noise without impulses or tone components that is equivalent to the actual noise emitted over a period of time.

Erosion - The process of weathering and transportation of weathered materials.

Exposure Pathway - The method of intake of a substance; for example, inhalation, ingestion, or absorption.

Extirpated Species - A species that is extinct from a geographic area, but still exists elsewhere.

Floodplain - The lowlands and relatively flat areas adjoining inland waters, including flood prone areas, which are inundated by a flood.

FONSI (Finding of No Significant Impact) - A document prepared in compliance with the National Environmental Policy Act, supported by an environmental assessment, that briefly presents why a federal action would have no significant effect on the human environment and for which an environmental impact statement, therefore, will not be prepared (40 CFR 1508.13).

Freon - Any of a group of chemically unreactive chlorofluorocarbons used as aerosol propellants, refrigerants, and solvents.

Geotextile Cloth - Permeable fabric.

Glacial Erratic - A piece of rock carried by a glacier that differs from the native rocks found in a given area.

Glacial Outwash - Sediment deposited from streams that form from glacial melting.

Glacier - Large body of ice that travels at a slow rate, often advancing and retreating over land or sea.

Hazardous Waste/Materials - Waste substances that can pose a substantial or potential hazard to human health or the environment when improperly managed.

Hertz - A unit of frequency equal to one cycle per second.

Industrial Hygiene - The science of anticipating, recognizing, evaluating, and controlling workplace conditions that may cause workers' injury or illness. Industrial hygienists use environmental monitoring and analytical methods to detect the extent of worker exposure and employ engineering, work practice controls, and other methods to control potential health hazards (USDOL, 1998).

Invasive Species - An alien (nonnative to the ecosystem) species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Ions - An *ion* is an atom or molecule where the total number of electrons is not equal to the total number of protons, giving it a net positive or negative electric charge.

Karst - Landscapes shaped by layers of soluble bedrock that dissolve upon contact with water.

Light Emitting Diode (LED) - A light-emitting diode (LED) is a semiconductor light source. LEDs are used as indicator lamps in many devices, and are increasingly used for lighting.

Limestone - Sedimentary rock formed by calcium carbonate, found in areas of karst topography

Lithium - A soft, silver-white metal that belongs to the alkali metal group of chemical elements.

Mitigation - Methods or actions taken to improve site conditions by limiting, reducing or controlling adverse impacts to the environment.

NAAQS (National Ambient Air Quality Standards) - Standards established by the USEPA that apply to outdoor air throughout the country. Primary standards are designed to protect human health, with an adequate margin of safety, including sensitive populations such as children, the elderly, and individuals suffering from respiratory disease.

National Emissions Standards for Hazardous Air Pollutants - Emissions standards set by the USEPA for an air pollutant not covered by NAAQS that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness.

Native - A species that historically occurs in an area or one that was not introduced (brought) from another area.

NEPA (National Environmental Policy Act) - Requires all agencies, including Department of Energy, to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA with other planning requirements, and prepare appropriate NEPA documents to facilitate better environmental decision-making (40 CFR 1500).

New Source Performance Standards - Pollution control standards issued by the USEPA. The term is used in the Clean Air Act to refer to air pollution emission standards, and in the Clean Water Act referring to standards for discharges of industrial wastewater to surface waters.

Nonattainment Areas - A locality where air pollution levels persistently exceed national standards or that contributes to ambient air quality in a nearby area that fails to meet standards.

Nonpoint Source Pollution - Water pollution affecting a water body from diffuse sources, rather than a point source which discharges to a water body at a single location.

NPDES (National Pollutant Discharge Elimination System) - The national program for administering permits (and pretreatment requirements) under sections 307, 402, 318, and 405 of the Clean Water Act. The term includes state or tribal" approved programs."

Occupational Injury - Any injury, including a cut, fracture, sprain, and amputation, which results from a work accident or from a single instantaneous exposure in the work environment.

Overburden - The term used in mining and archaeology to describe material that lies above the area of economic or scientific interest.

Particulate Matter - Small solid particles and liquid droplets in the air.

Permeability - The rate of flow of a liquid or gas through a given substance.

Potential to Emit (PTE) - The maximum amount of air contaminants that your source could emit if each process is operated at 100% of its design capacity; each process operated 24 hours/day, 365 days/year; materials that emit the most air contaminants are materials that emit the most air contaminants are used or processed 100% of the time; and air pollution control equipment is turned off.

Refurbishment - The process of major maintenance or minor repair of an item, either aesthetically or mechanically.

Sedimentary - Formed by the deposition of sediment, as certain rocks.

Sedimentation - The deposition of sediment occurring from weathering or surface runoff.

Silt Fence - Sediment control device on construction sites that works to protect water quality in nearby streams.

Solid Waste - any solid, semi-solid, liquid, or contained gaseous materials discarded from industrial, commercial, mining, or agricultural operations, and from community activities. Solid waste includes garbage, construction debris, commercial refuse, sludge from water supply or waste treatment plants, or air pollution control facilities, and other discarded materials.

State Implementation Plan - The state plan for complying with the federal Clean Air Act. A SIP consists of narrative, rules, technical documentation, and agreements that an individual state will use to clean up area not meeting the National Ambient Air Quality Standards.

Surface Runoff Potential - The likelihood of water to run off a surface at a given rate

Sustainability - The capacity to endure. In ecology, the word describes how biological systems remain diverse and productive over time

Therm – A unit of heat energy equal to 100,000 British thermal units; it is not a unit on the International System of Units

Threatened Species - A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Till - Unsorted sediment carried by glaciers.

Topography - The study of the landscape of the earth; surface features on land or sea bottom.

Wetland - Area inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

APPENDICES

Appendix A Air Emission Calculations

Table A-1. Construction Equipment Use				
Equipment Type	**Number of Units**	**Days on site**	**Hours per day**	**Operating Hours**
Excavators Composite	2	235	4	1880
Rollers Composite	2	235	8	3760
Rubber Tired Dozers Composite	2	235	8	3760
Plate Compactors Composite	4	235	4	3760
Trenchers Composite	4	235	8	7520
Air Compressors	4	235	4	3760
Cement & Mortar Mixers	4	235	6	5640
Cranes	2	235	7	3290
Generator Sets	2	235	4	1880
Tractors/Loaders/Backhoes	2	235	7	3290
Pavers Composite	2	235	8	3760
Paving Equipment	4	235	8	7520

Note: Some inconsistencies due to rounding may occur.

Table A-2. Construction Equipment Emission Factors (pounds/hour)						
Equipment	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Excavators Composite	0.5828	1.3249	0.1695	0.0013	0.0727	0.0727
Rollers Composite	0.4341	0.8607	0.1328	0.0008	0.0601	0.0601
Rubber Tired Dozers Composite	1.5961	3.2672	0.3644	0.0025	0.1409	0.1409
Plate Compactors Composite	0.0263	0.0328	0.0052	0.0001	0.0021	0.0021
Trenchers Composite	0.5080	0.8237	0.1851	0.0007	0.0688	0.0688
Air Compressors	0.3782	0.7980	0.1232	0.0007	0.0563	0.0563
Cement and Mortar Mixers	0.0447	0.0658	0.0113	0.0001	0.0044	0.0044
Cranes	0.6011	1.6100	0.1778	0.0014	0.0715	0.0715
Generator Sets	0.3461	0.6980	0.1075	0.0007	0.0430	0.0430
Tractors/Loaders/Backhoes	0.4063	0.7746	0.1204	0.0008	0.0599	0.0599
Pavers Composite	0.5874	1.0796	0.1963	0.0009	0.0769	0.0769
Paving Equipment	0.0532	0.1061	0.0166	0.0002	0.0063	0.0063

Table A-3. Construction Equipment Emissions (tpy)						
Equipment	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Excavators Composite	0.5479	1.2454	0.1593	0.0012	0.0684	0.0684
Rollers Composite	0.8161	1.6181	0.2497	0.0014	0.1130	0.1130
Rubber Tired Dozers Composite	3.0006	6.1423	0.6851	0.0046	0.2649	0.2649
Plate Compactors Composite	0.0495	0.0618	0.0097	0.0001	0.0039	0.0039
Trenchers Composite	1.9101	3.0972	0.6959	0.0026	0.2589	0.2589
Air Compressors	0.7110	1.5002	0.2316	0.0013	0.1059	0.1059
Cement and Mortar Mixers	0.1262	0.1854	0.0318	0.0003	0.0125	0.0125
Cranes	0.9888	2.6485	0.2925	0.0023	0.1177	0.1177
Generator Sets	0.3253	0.6561	0.1010	0.0007	0.0404	0.0404
Tractors/Loaders/Backhoes	0.6684	1.2742	0.1981	0.0013	0.0985	0.0985
Pavers Composite	1.1044	2.0296	0.3691	0.0017	0.1446	0.1446
Paving Equipment	0.2001	0.3989	0.0623	0.0006	0.0237	0.0237
Total	**10.45**	**20.86**	**3.09**	**0.0182**	**1.25**	**1.25**

Table A-4. Delivery of Equipment and Supplies						
Delivery of Concrete						
Volume of Concrete (cubic yards)	6218					
Number of Concrete Trucks	622					
Delivery of Equipment and Supplies						
Number of Deliveries Per Site Per Day	4					
Days of Construction	230					
Total Number of Deliveries	2760					
Grand Total Number of Trucks	3382					
Number of Trips	2					
Miles Per Trip	30					
Total Miles	202,908					
Pollutant	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Emission Factor (lbs/mile)	0.0219	0.0237	0.0030	0.0000	0.0009	0.0007
Total Emissions (lbs)	4453.65	4811.47	607.24	5.20	173.70	150.02
Total Emissions (tpy)	**2.23**	**2.41**	**0.30**	**0.0026**	**0.09**	**0.08**
Source: (CARB, 2007).						

Table A-5. Surface Disturbance						
Total Suspended Particles (TSP) Emissions	80	lbs/acre				
PM_{10}/Total Suspended Particles	0.45					
$PM_{2.5}/PM_{10}$	0.15					
Period of Disturbance	30	days				
Capture Fraction	0.5					
Building/Facility	**Area (acres)**	**TSP (lbs)**	**PM_{10} (lbs)**	**PM_{10} (tons)**	**$PM_{2.5}$ (lbs)**	**$PM_{2.5}$ (tons)**
Demolition	22.7	54,415	24,487	12.24	1836	0.92
Total	**22.7**	**54,415**	**24,487**	**12.24**	**1836**	**0.92**
Sources: (USEPA, 1995; USEPA, 2005b).						

Table A-6. Worker Commutes						
Number of Workers	50					
Number of Trips	2					
Miles Per Trip	30					
Days of Construction	115					
Total Miles	345000					
Pollutant	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Emission Factor (lbs/mile)	0.0105	0.0011	0.0011	0.0000	0.0001	0.0001
Total Emissions (lbs)	3639.21	380.49	372.32	3.71	29.34	18.26
Total Emissions (tpy)	**1.82**	**0.19**	**0.19**	**0.0019**	**0.01**	**0.01**
Source: (CARB, 2007).						

Table A-7. Total Construction Emissions (tons per year)						
Activity/Source	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Construction Equipment	10.45	20.86	3.09	0.0182	1.25	1.25
Delivery of Equipment and Supplies	2.23	2.41	0.30	0.0026	0.09	0.08
Surface Disturbance	0.00	0.00	0.00	0.0000	12.24	0.92
Worker Commutes	1.82	0.19	0.19	0.0019	0.01	0.01
Total Construction Emissions	**14.49**	**23.45**	**3.58**	**0.0226**	**13.60**	**2.25**

Table A-8. Estimated Actual Operating Emissions (tpy)										
	Boilers	**Gas Units**	**Wave Solder & Proto Lab**	**Validation Lab**	**Salt Bath**	**Vibration Lab (Shakers)**	**Dyne Lab Paint Hood**	**Harley Lab**	**KMS Facility[1]**	**TOTAL**
CO	5.94	0.06		-	-	-	-	1.65	0.16	**7.81**
Pb	0.00	0.00		-	-	-	-	-	0.0025	**0.0025**
NO_x	7.08	0.07		-	-	-	-	0.07	0.84	**8.06**
PM_{10}	0.54	0.01		-	-	-	-	0.00	0	**0.55**
SO_2	0.04	0.00		-	-	-	-	0.00	0	**0.04**
VOC	0.39	0.00	0.05	-	-	-	0.06	0.10	2.144	**2.744**
Source: (Renner, 2011k) [1] Conservatively used potential to emit for KMS facility.										

Table A-9. Potential to Emit – New Laboratories (tpy)									
	Boilers	**Gas Units**	**Wave Solder & Proto Lab**	**Validation Lab**	**Salt Bath**	**Vibration Lab (Shakers)**	**Dyne Lab Paint Hood**	**Harley Lab**	**TOTAL**
CO	8.74	0.08	-	-	-	-	-	9.79	18.61
Pb	0.00	0.00	-	-	-	-	-	-	0.00
NO_x	10.41	0.10	-	-	-	-	-	0.39	10.90
PM_{10}	0.79	0.01	-	-	-	-	-	0.02	0.82
SO_2	0.06	0.00	-	-	-	-	-	0.02	0.08
VOC	0.57	0.01	1.04	-	-	-	0.76	0.57	2.94
Source: (Delphi, 2011c)									

Table A-10. Potential to Emit - KMS Facility (tpy)					
Process/Equipment Description	**NO_x**	**CO**	**VOC**	**Pb**	**CO_2 Equivalents**
Electrovert OmniFlo 10 Reflow Oven (E)	0.00	0.00	0.000	0.0008	0.00
Electrovert OmniFlo 10 Reflow Oven (W)	0.00	0.00	0.000	0.0008	0.00
Selective Wave Solder (West) Pb Free	0.00	0.00	0.191	0.0000	0.00
Wave Solder (Center) Pb	0.00	0.00	0.002	0.0008	0.00
Wave Solder (East) Pb Free	0.00	0.00	1.911	0.0000	0.00
Conformal Coat Cure	0.00	0.00	0.000	0.0000	0.00
Oven	0.00	0.00		0.0000	0.00
Validation Lab Chiller (2 circuits)	0.00	0.00	0.00	0.00	0.00
Battery Lab Charging Hoods (8)	0.00	0.00	0.00	0.00	0.00
Johnson Air Direct Fire Air MakeUp	0.21	0.04	0.01	0.00	256
Johnson Air Direct Fire Air MakeUp	0.21	0.04	0.01	0.00	256
Johnson Air Direct Fire Air MakeUp	0.21	0.04	0.01	0.00	256
Johnson Air Direct Fire Air MakeUp	0.21	0.04	0.01	0.00	256
Total	0.84	0.16	2.144	0.0025	1,024
Source: (Delphi, 2011d)					

Appendix B USFWS Consultation

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 7, 2011

Scott Pruitt
Field Supervisor
Bloomington Indiana Field Office, USFWS
620 S. Walker Street
Bloomington, IN 47403-2121

RE: Delphi Kokomo, IN Corporate Technology Center Project

Dear Mr. Pruitt:

With the support of the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL), the Delphi Automotive Systems, LLC (Delphi) proposes to construct a lab with associated utilities building for testing electronic devices referred to as the "Delphi Kokomo, IN Corporate Technology Center" (Delphi CTC Project or Project). Funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act), the Delphi CTC Project would advance NETL's Vehicle Technology Program as well as assist in the nation's economic recovery by creating manufacturing jobs in the United States. Federal funding may be committed by NETL for the fieldwork contemplated, and the federal action (i.e. DOE's Proposed Action) is to provide approximately $89.3 million to implement Delphi's Proposed Project.

Delphi's Proposed Project would occur in Kokomo, Howard County, Indiana in an existing headquarters complex currently owned by Delphi (See below figure). The project would include the construction and operation of site improvements (roads, parking, buildings, landscaping, and lighting), which specifically includes a 10,000 square foot (sf) utilities building containing boilers and heaters and a 70,000 sf engineering laboratory containing the following functional lab spaces.

Power Electronics Development Lab
The Power Electronics Development Lab would facilitate the design, build, and test of next generation electric and hybrid vehicle products. Power Electronics consists of two major areas: 1) development area for power electronics components (build and bench test areas) and 2) the propulsion system dynamometer test area. These labs would have approximately 10 full-time residents with up to an additional 20 people.

Validation Lab
The Validation Lab would validate that the desired product meets negotiated customer specifications for durability and reliability. The lab has three distinct disciplines within its organization: Environmental Lab, Dynamics Lab, and Electromagnetic Compatibility Lab. The lab negotiates requirements for testing the product with the customer, develops the hardware and software platforms to interface with the product, and performs the testing on the product. The facility would employ 54 permanent personnel.

626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236

Proto Lab
The lab researches and develops power electronics products that include direct current to direct current (DC-DC) converters, which convert DC voltages in hybrid and electric vehicles. The work involves Printed Circuit Board Assembly, Stick Lead and Conformal Coating application, and Final Assembly, which includes Friction Welding and Electrical Testing.

DPSS OE Service Test Development Lab
The objective of the Delphi Product and Service Solutions (DPSS) Original Equipment (OE) Service Test Development Lab is to design, build, and implement remanufacturing test services for a wide variety of products including audio; Powertrain Engine Control Module (ECM); Heating, Ventilating, and Air Conditioning (HVAC); Body Control Module (BCM); and Integrated Body Control Module (IBCM) products. The lab provides hardware and software for testing these products in the partnered remanufacturing shops. The lab is 8,000 to 10,000 sf and would have 8 to 10 engineers/technicians.

Consultation
According to a review on April 6th, 2011 of the online species lists for counties in Indiana, the only protected species found in Howard County is the Indiana bat (*Myotis sodalis*) (USFWS, 2011a). The Indiana bat is a migratory species that hibernates in caves and cave-like structures, such as mines, in the State of Indiana during the winter (USFWS, 2007). During the summer they roost under the peeling bark of trees and forage in closed to semi-open forested areas. Degradation and disturbance of winter hibernacula and loss of summer habitat are the major threats to this species (USFWS, 2007). Most hibernacula used by Indiana bats are found in the Southern parts of Indiana where there is karst topography that produces appropriate cave sites and there is no critical habitat for the Indiana bat in Howard County, IN (USFWS, 2011b). The proposed action is located in a developed area of the City of Kokomo, IN that does not include either forested areas or caves and is not suitable habitat for foraging individuals (see attached figure). Because this project would not degrade or remove preferred habitat for the Indiana bat and impacts to individuals of the species or the population would be unlikely, no impacts are expected as a consequence of the proposed action.

DOE is requesting concurrence with the about findings as well as any information or concerns you may have on environmental issues in the vicinity of the proposed Delphi project site. Any information you provide will assist the Department in the preparation of an environmental assessment (EA).

DOE will provide you a copy of the Draft EA, once completed, where you may again respond to any specific concerns you may have. All correspondence(s) with your office will be included in an appendix to the EA. At this time, DOE is anticipating a 30-day public comment period.

Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. Should you require additional information, please contact me by telephone at (412) 386-5428 or by email at pierina.fayish@netl.doe.gov.

Thank you in advance for your consideration.

Sincerely,

Pierina N. Fayish

Pierina Fayish
NEPA Document Manager

Enclosure

References

(USFWS, 2011a). U.S. Fish and Wildlife Service. 2011. Endangered and Threatened Species in Indiana Counties. Accessed online April 2011 at http://www.fws.gov/midwest/Endangered/section7/sppranges/indiana-cty.html.

(USFWS, 2007). U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp. Accessed online April 2011 at http://ecos.fws.gov/docs/recovery_plan/070416.pdf.

(USFWS, 2011b). U.S. Fish and Wildlife Service. 2011. Indiana Bat: Finding on the Petition to Revise Critical Habitat. Accessed online April 2011 at http://www.fws.gov/midwest/endangered/mammals/inba/inba_chpetfindg_qandas.html.

Please note the enclosure was the CTC site map (Figure 2.1-1).

Response:

United States Department of the Interior
Fish and Wildlife Service

Bloomington Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

April 15, 2011

Ms. Pierina Faylish
National Energy Technology Laboratory
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, PA 15236

Project No: Delphi Kokomo, IN Corporate Technology Center
County(ies): Howard

Dear Ms. Faylish:

This responds to your letter dated April 7, 2011, requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed. This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation.

We appreciate the opportunity to comment at this early stage of project planning. If project plans change such that fish and wildlife habitat may be affected, please recoordinate with our office as soon as possible. If you have any questions about our recommendations, please call (812)334-4261.

Sincerely yours,

Michael L. Litwin

for Scott E. Pruitt,
Field Supervisor

Appendix C SHPO Consultation

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 7, 2011

Dr. James A. Glass, Deputy State Historic Preservation Officer
Department of Natural Resources, Division of Historic Preservation and Archeology
402 West Washington Street, W274
Indianapolis, IN 46204

RE: Delphi Kokomo, IN Corporate Technology Center Project

Dear Dr. Glass:

With the support of the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL), Delphi Automotive Systems, LLC (Delphi) proposes to construct a lab and associated utilities building for testing electronic devices referred to as the "Delphi Kokomo, IN Corporate Technology Center" (Delphi CTC Project or Project). Funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act), the Delphi CTC Project would advance NETL's Vehicle Technology Program as well as assist in the nation's economic recovery by creating manufacturing jobs in the United States. Federal funding may be committed by NETL for the fieldwork contemplated, and the federal action (i.e. DOE's Proposed Action) is to provide approximately $89.3 million to implement Delphi's Proposed Project.

Delphi's Proposed Project would occur in Kokomo, Howard County, Indiana in an existing headquarters complex currently owned by Delphi (See Figure 1). The project would include the construction and operation of site improvements (roads, parking, buildings, landscaping, and lighting), which specifically includes a 10,000 square foot (sf) utilities building containing boilers and heaters and a 70,000 sf engineering laboratory containing the following functional lab spaces.

Power Electronics Development Lab
The Power Electronics Development Lab would facilitate the design, build, and test of next generation electric and hybrid vehicle products. Power Electronics consists of two major areas: 1) development area for power electronics components (build and bench test areas) and 2) the propulsion system dynamometer test area. These labs would have approximately 10 full-time residents with up to an additional 20 people.

Validation Lab
The Validation Lab would validate that the desired product meets negotiated customer specifications for durability and reliability. The lab has three distinct disciplines within its organization: Environmental Lab, Dynamics Lab, and Electromagnetic Compatibility Lab. The lab negotiates requirements for testing the product with the customer, develops the hardware and software platforms to interface with the product, and performs the testing on the product. The facility would employ 54 permanent personnel.

626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236

Proto Lab
The lab does research and development on power electronics products that include direct current to direct current (DC-DC) converters, which convert DC voltages in hybrid and electric vehicles. The work involves Printed Circuit Board Assembly, Stick Lead and Conformal Coating application, and Final Assembly, which includes Friction Welding and Electrical Testing.

DPSS OE Service Test Development Lab
The objective of the Delphi Product and Service Solutions (DPSS) Original Equipment (OE) Service Test Development Lab is to design, build, and implement remanufacturing test services for a wide variety of products including audio; Powertrain Engine Control Module (ECM); Heating, Ventilating, and Air Conditioning (HVAC); Body Control Module (BCM); and Integrated Body Control Module (IBCM) products. The lab provides hardware and software for testing these products in the partnered remanufacturing shops. The lab is 8,000 to 10,000 sf and would have 8 to 10 engineers/technicians.

Figure 2 illustrates that the closest cultural resource is over a mile away. The addition of a couple of buildings in an existing industrial complex would be expected to constitute a negligible visual change to the surrounding area. Further, the project would not be any taller than the existing buildings. Therefore, the area of effects should be limited the property boundaries and the immediate surroundings.

The current buildings were built in 1985. No cultural resource survey has been performed. The land was in agriculture prior to the current use by Delphi. The project site is currently landscaped yards. Pictures follow the maps. In addition to information provided by the current landowner, the National Register of Historic Places was consulted (see bibliographic entry).

DOE is requesting information or concerns you may have on properties of traditional, religious, or cultural significance in the vicinity of the proposed Delphi project site. Any information you provide will assist the Department in the preparation of an environmental assessment (EA) and fulfillment of its responsibilities under Section 106 of the National Historic Preservation Act.

As designed, the proposed project would avoid any disturbance to known cultural or archeological sites. If any cultural materials were to be discovered during the construction phase of the project, all work would cease until the Indiana State Historic Preservation Office is contacted and corrective measures implemented.

DOE will provide you a copy of the Draft EA, once completed, where you may again respond to any specific concerns you may have. All correspondence(s) with your office will be included in an appendix to the EA. At this time, DOE is anticipating a 30-day public comment period.

Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. Should you require additional information, please contact me by telephone at (412) 386-5428 or by email at pierina.fayish@netl.doe.gov.

Thank you in advance for your consideration.

Sincerely,

Pierina Fayish
NEPA Document Manager

Enclosures

Reference:
(NRHP, no date). National Registry of Historic Places. No date. Listing of Sites for Howard County, Indiana. Accessed online March 2011 at http://www.nationalregisterofhistoricplaces.com/in/Howard/state.html

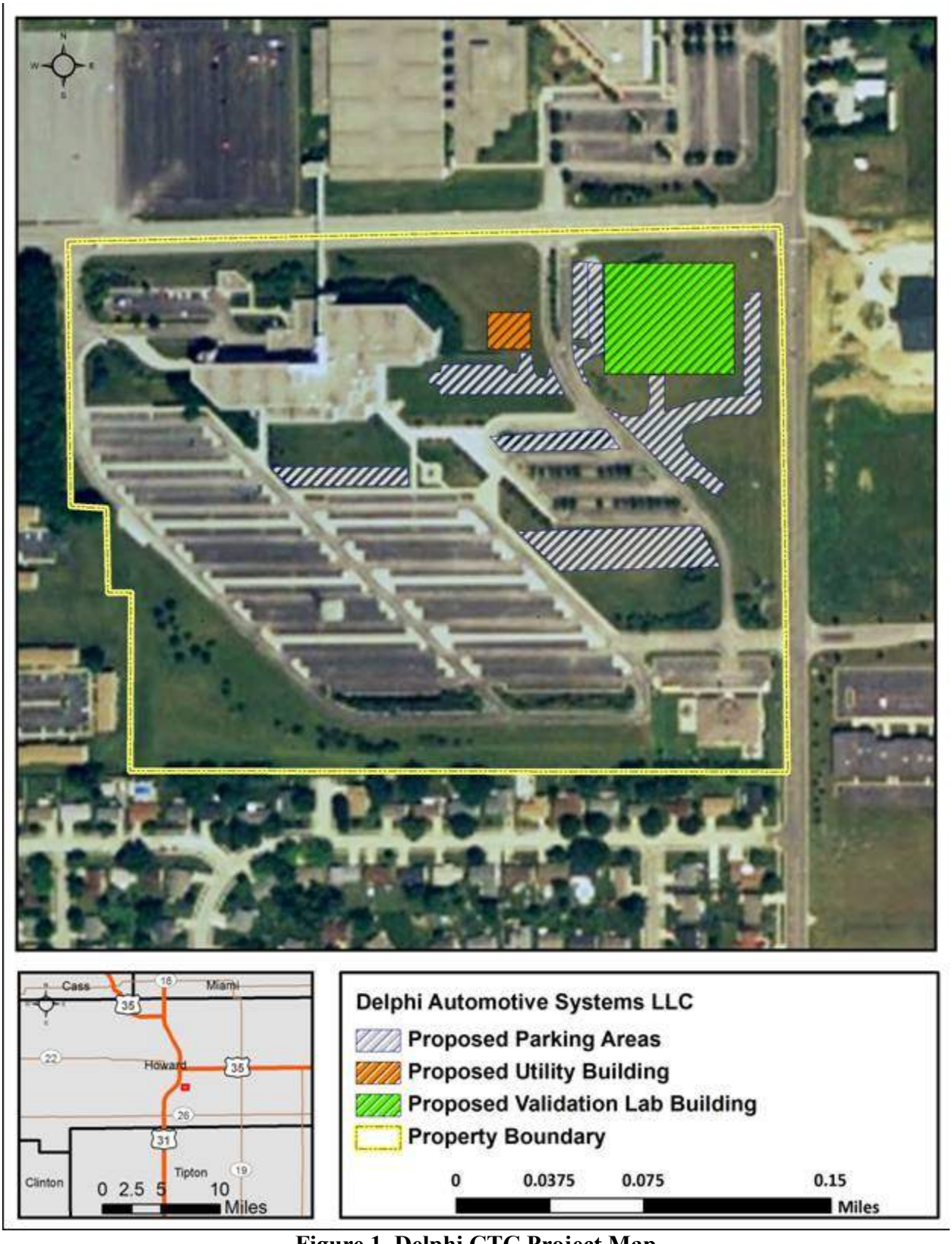

Figure 1. Delphi CTC Project Map

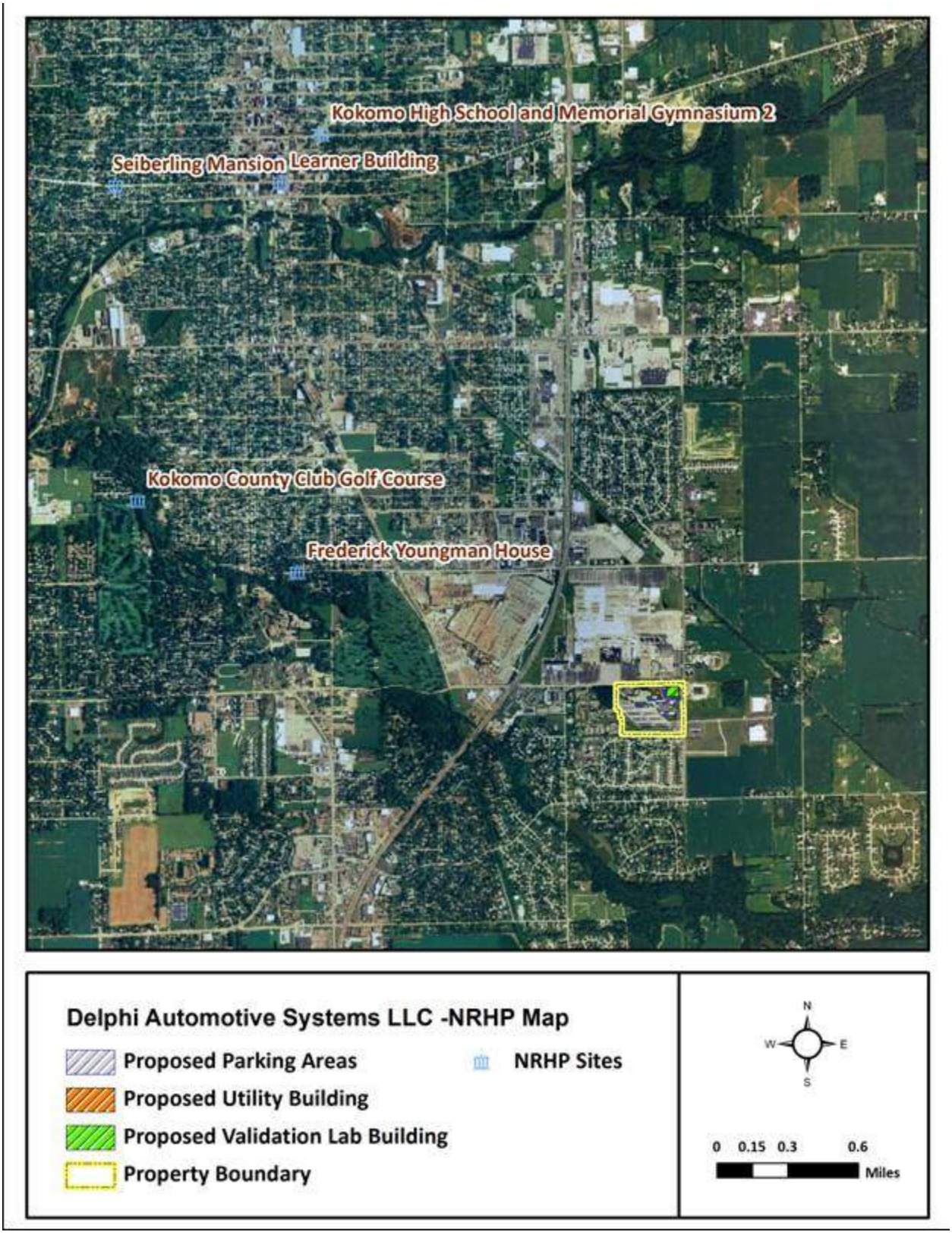

Figure 2. Cultural Resource Map

Overall Site Plan

Site Photos

Response:

DNR Indiana Department of Natural Resources

Mitchell E. Daniels, Jr., Governor
Robert E. Carter, Jr., Director

Division of Historic Preservation & Archaeology•402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646•Fax 317-232-0693 · dhpa@dnr.IN.gov

HISTORIC PRESERVATION AND ARCHAEOLOGY

May 9, 2011

Pierina Fayish
NEPA Document Manager
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, Pennsylvania 15236

Federal Agency: U.S. Department of Energy

Re: Project information regarding the Delphi Kokomo, IN Corporate Technology Center Project (DHPA # 11530)

Dear Ms. Fayish:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated April 7, 2011 and received on April 11, 2011, for the above indicated project in Kokomo, Howard County, Indiana.

For a portion of the proposed project area, it is our understanding that construction activities for this project have been initiated. Based upon the documentation provided, we believe that our ability to identify historic resources has been hampered by the previously completed activities.

In regard to archaeological resources, for those portions of the proposed project area which have not already been impacted by the recent construction activities, please clarify whether those areas are previously disturbed and, if applicable, the nature of the disturbance.

Based upon the documentation available to the staff of the Indiana SHPO, we have not identified any historic buildings, structures, districts, or objects listed in or eligible for inclusion in the National Register of Historic Places within the probable area of potential effects.

Once the indicated information is received, the Indiana SHPO will resume identification and evaluation procedures for this project. Please keep in mind that additional information may be requested in the future.

A copy of the revised 36 C.F.R. Part 800 that went into effect on August 5, 2004, may be found on the Internet at www.achp.gov for your reference. If you have questions about archaeological issues please contact Amy Johnson at (317) 232-6982 or ajohnson@dnr.IN.gov. If you have questions about buildings or structures please contact Ashley Thomas at (317) 234-7034 or asthomas@dnr.IN.gov. Additionally, in all future correspondence regarding the above indicated project, please refer to DHPA #11530.

Very truly yours,

James A. Glass, Ph.D.
Deputy State Historic Preservation Officer

JAG:ALJ:ADT:adt

www.DNR.IN.gov

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Printed on Recycled Paper

DNR Indiana Department of Natural Resources

Mitchell E. Daniels, Jr., Governor
Robert E. Carter, Jr., Director

Division of Historic Preservation & Archaeology•402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646•Fax 317-232-0693 · dhpa@dnr.IN.gov

August 1, 2011

Pierina Fayish
NEPA Document Manager
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, Pennsylvania 15236

Federal Agency: U.S. Department of Energy

Re: Additional information regarding the Delphi Kokomo, IN Corporate Technology Center Project (DHPA # 11530)

Dear Ms. Fayish:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated July 1, 2011 and received on July 7, 2011, for the above indicated project in Kokomo, Howard County, Indiana.

As was stated in our letter dated May 9, 2011, based upon the documentation available to the staff of the Indiana SHPO, we have not identified any historic buildings, structures, districts, or objects listed in or eligible for inclusion in the National Register of Historic Places within the probable area of potential effects.

In regard to archaeology, based upon the additional information you provided, it appears that most of the proposed construction area has now been disturbed by the ongoing construction. Therefore, we believe our ability to identify archaeological resources for this project has been hampered by the previously completed activities.

If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations.

A copy of the revised 36 C.F.R. Part 800 that went into effect on August 5, 2004, may be found on the Internet at www.achp.gov for your reference. If you have questions about archaeological issues please contact Amy Johnson at (317) 232-6982 or ajohnson@dnr.IN.gov. If you have questions about buildings or structures please contact Ashley Thomas at (317) 234-7034 or asthomas@dnr.IN.gov. Additionally, in all future correspondence regarding the above indicated project, please refer to DHPA #11530.

Very truly yours,

James A. Glass, Ph.D.
Deputy State Historic Preservation Officer

JAG:ALJ:aj

Enc: Steven P. Blazek, U.S. Department of Energy

Appendix D Native American Consultation

Bureau of Indian Affairs

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 7, 2011

Franklin Keel
Regional Director, Eastern Regional Office
Bureau of Indian Affairs
545 Marriott Drive, Suite 700
Nashville, TN 37214

RE: Delphi Kokomo, IN Corporate Technology Center Project

Dear Director Keel:

With the support of the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL), Delphi Automotive Systems, LLC (Delphi) proposes to construct a lab for testing electronic devices and associated utilities building referred to as the "Delphi Kokomo, IN Corporate Technology Center" (Delphi CTC Project or Project). Funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act), the Delphi CTC Project would advance NETL's Vehicle Technology Program as well as assist in the nation's economic recovery by creating manufacturing jobs in the United States. Federal funding may be committed by NETL for the fieldwork contemplated, and the federal action (i.e. DOE's Proposed Action) is to provide approximately $89.3 million to implement Delphi's Proposed Project.

Delphi's Proposed Project would occur in Kokomo, Howard County, Indiana in an existing headquarters complex currently owned by Delphi (See below figure). The project would include the construction and operation of site improvements (roads, parking, buildings, landscaping, and lighting), which specifically includes a 10,000 square foot (sf) utilities building containing boilers and heaters and a 70,000 sf engineering laboratory containing the following functional lab spaces.

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Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. Should you require additional information, please contact me by telephone at (412) 386-5428 or by email at pierina.fayish@netl.doe.gov.

Thank you in advance for your consideration.

Sincerely,

Pierina N Fayish

Pierina Fayish
NEPA Document Manager

Enclosure

Miami Tribe of Oklahoma

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 7, 2011

Thomas E. Gamble, Chief
Miami Tribe of Oklahoma
202 South Eight Tribes Trail
Miami, OK 74354

RE: Delphi Kokomo, IN Corporate Technology Center Project

Dear Chief Gamble:

With the support of the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL), the Delphi Automotive Systems, LLC (Delphi) proposes to construct a lab for testing electronic devices referred to as the "Delphi Kokomo, IN Corporate Technology Center" (Delphi CTC Project or Project). Funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act), the Delphi CTC Project would advance NETL's Vehicle Technology Program as well as assist in the nation's economic recovery by creating manufacturing jobs in the United States. Federal funding may be committed by NETL for the fieldwork contemplated, and the federal action (i.e. DOE's Proposed Action) is to provide approximately $89.3 million to implement Delphi's Proposed Project.

Delphi's Proposed Project would occur in Kokomo, Howard County, Indiana in an existing industrial and technology park property currently owned by Delphi (See below figure). The project would include the construction and operation of site improvements (roads, parking, buildings, landscaping, and lighting), which specifically includes a 10,000 square foot (sf) utilities building containing boilers and heaters and a 70,000 sf engineering laboratory containing the following functional lab spaces.

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Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. Should you require additional information, please contact me by telephone at (412) 386-5428 or by email at pierina.fayish@netl.doe.gov.

Thank you in advance for your consideration.

Sincerely,

Pierina N Fayish

Pierina Fayish
NEPA Document Manager

Enclosure

Please note for both letters the enclosure was the CTC site map (Figure 2.1-1).

Response:

Ms. Pierina Fayish
NEPA Document Manager
National Energy Technology Laboratory
626 Cochans Mill Road
PO Box 10940
Pittsburg, PA 15236

Re: Delphi Kokomo, IN Corporate Technology Center Project

Ms. Fayish:

Aya, kikwehsitoole. My name is George Strack and I am the Tribal Historic Preservation Officer for the federally Recognized Miami Tribe of Oklahoma. In the capacity I am the Miami Nation's point of contact for all Section 106 issues.

The above mentioned project is located with the homelands of the Miami Nation. Therefore, it is possible that Miami human remains and/or cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) could be discovered during this project. Should such items be discovered the Miami Nation requests immediate notification and consultation with the entity of jurisdiction specific to the location of discovery.

The Miami Nation objects to projects which will disturb or destroy archaeological sites that may be eligible for the National Register of Historic Places and requests copies of any archaeological surveys that are performed on these sites. I may be contacted at 918-541-1399 or by mail at the address listed below to initiate consultation.

Sincerely,

George Strack
Tribal Historic Preservation Officer
gstrack@miamination.com

Miami Tribe of Oklahoma
202 S. Eight Tribes Trail
Miami, OK. 74354
918.541.1366 office
918.542.7905 fax
317.625.1288 cell
http://www.miamination.com

Appendix E IDEM Letter about Hazardous Materials

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

December 17, 2010

Ms. Geraldine Barnuevo
GM WFG – Remediation Team
30200 Mound Road
Mail Code: 480-111-W60
Warren, MI 48090-9010

Re: RCRA Corrective Action
No Further Action Proposal
CTC Parcel
GM Bypass Facility
Kokomo, Indiana
IND 000 806 851

Dear Ms. Barnuevo:

The Indiana Department of Environmental Management has reviewed the CTC Parcel No Further Action Proposal of December 3, 2010 and has the following comments.

The two areas of potential contamination have been investigated and found to be safe for residential use. In addition, eight geotechnical borings at the site were screened for evidence of contamination and found nothing of concern.

The IDEM concurs that No Further Action is required for the CTC parcel.

If you have any questions regarding this matter, please call Doug Griffin of my office at 317/233-2710.

Sincerely,

Victor P. Windle

Victor P. Windle, Chief
Hazardous Waste Permit Section
Permits Branch
Office of Land Quality

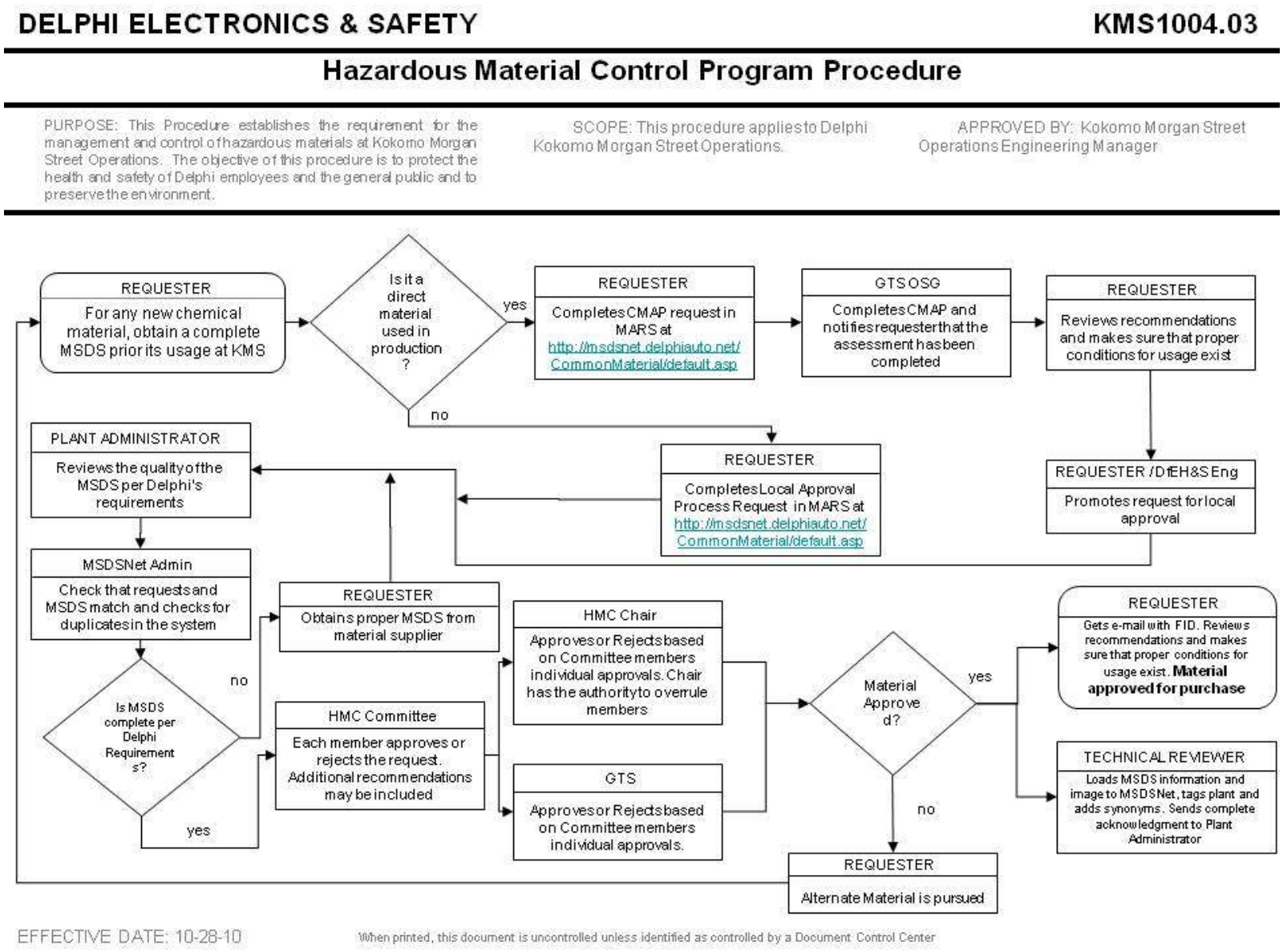
cc: 1C3b file

Appendix F Typical Lab Chemicals and Storage Locations

Flammable Cabinet
Lysol disinfecting spray 19 ounces (oz)
Krylon 1601 glossy black
phosphoric acid HMM#H00162 IRC comp 1 gallon (gal)
Propanol class 10 code 119-9758-011-09 General Chemical 1 gal
Dow Corning 732 rtv sealant 300 milliliters (ml)
Mobile 1 5w30 motor oil 1quart (qt)
Motorcraft Mercon V atf 1qt
Kendall 5w30 motor oil 1qt
Mobil DTE 18m #345280 hydraulic fluid 1 gal
Loctite 515 gasket eliminator 300ml
Loctite chisel 79040 18oz
NAPA dexron III ATF fluid 1qt
GM dexron VI ATF fluid 1qt
Krylon 1301 clear
Krylon 1302 clear
Krylon 2410 safety orange
Krylon 2501 brown
Krylon 1317 primer brown
Krylon 1501 white
Krylon 1318 primer grey
ZEP Elec II
chalkboard cleaner Share corp 18oz
Crown toolmakers ink remover
Techspray fine-l-kote #2102-125
Stay Silv flux brazing #40050 JW Harris co
Stay Clean solder flux #40027 JW Harris co
Tri-Flow super lube 12 oz
LPS 1 greaseless lube #00116 LPS Laboratory
LPS 3 rust inhibitor #00316 LPS Laboratory
G-N assembly lube #2413531-0995 Dow Corning
ITW Dykem blue layout fluid #80000
Cool Tool II #03-116 Monroe Fluid Tech
Tap Magic cutting fluid The Steco Corp
Enviro Tech Freeze #1672-105 Techspray
Duster #1671-105 Techspray
Krylon 1618 BBQ black
Butane fuel Master Appliance Corp
3M spray mount adhesive #6065
Multi oil #2402-125 Techspray
Thermotron Blue spray paint #en-66806
Duo Seal Pump Oil #1407k-11 Welch Vacuum Tech 1qt
Grease guns (assume cartridge inside)
Castrol Syntilo #9913 1gal

Source: (Renner, 2011a).

Appendix G Hazardous Materials Control Program Procedures



DELPHI ELECTRONICS & SAFETY **KMS1004.03**

Hazardous Material Control Program Procedure

PURPOSE: This Procedure establishes the requirement for the management and control of hazardous materials at Kokomo Morgan Street Operations. The objective of this procedure is to protect the health and safety of Delphi employees and the general public and to preserve the environment.

SCOPE: This procedure applies to Delphi Kokomo Morgan Street Operations.

APPROVED BY: Kokomo Morgan Street Operations Engineering Manager

Definitions:

Chemical Material – Any element, chemical compound, or mixture of elements and/or compounds that can be anticipated to release chemicals in the workplace or the environment given their intended use in manufacturing or eventual handling at the end of useful life. This list includes but is not limited to all liquids, gases, pastes, powders, flakes, gels, aerosols, solids, any product that generates dust, fumes, fog, vapor, etc. during shipping, storage, handling, use or disposal, any explosive, any product with specific ventilation requirements, any product with personal protective equipment requirements, any product stored in a pressurized cylinder or container, any product that emits radiation higher than background, any product intended to be altered, processed, etc. in a manner that can give rise to a chemical release or exposure; lubricants on steel or other articles, and consumer chemical materials that are not used in a manner typical to a consumer.

CMAP – Chemical Material Assessment Process – the assessment and recommended safe use of chemical materials identified in new product /process designs. See Common Procedure Requirement (CPR) 12.5.4-1

Global Technical Services (GTS) – Operations Support Group (OSG) corporate technical resources that provide assistance in EH&S compliance, evaluation of chemical materials, products & processes; air, water, waste emissions, Industrial Hygiene, Toxicology and Design in Safety.
http://osg.delphiauto.net/webdata/phone/DisplayOrg.asp?PerID=23&MgrID=4

Hazardous Material – any chemical material identified by the HMCC to be hazardous given its intended use; and/or, any chemical or material regulated by hazardous materials, health, safety, environmental or transportation laws.

HMCC – Hazardous Material Control Committee – a committee established to review, approve, or reject the use of chemical materials. The committee consists of individuals with expertise in the following areas: Health & Safety, Security, Environmental, Industrial Hygiene, Manufacturing and/or Engineering. CPR

Material Approval Request System (MARS) - is the required electronic submission process for HMCC approval prior to purchase or use of all:

Raw materials,
Articles or products which produce an emission when processed or used,
Products manufactured by Delphi
Hazardous Materials/Dangerous Goods

http://msdsnet.delphiauto.net/CommonMaterial/default.asp

Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS) – document provided by the hazardous material manufacturer / supplier / distributor alerting downstream users of possible physical or chemical health, safety and environmental hazards. MSDSs include material specific recommendations and regulatory requirements for the safe use, handling storage, and disposal of the material. http://msdsnet.delphiauto.net/docs/msdsrequirements.doc

MSDSNet – Delphi's Corporate Database for Material Safety Data Sheets provided by the manufacturers. Material Safety Data Sheets provide technical information about the product and its ingredients, as well as the significant hazards and general guidelines for use. http://msdsnet.delphiauto.net/Default.asp

Requester- Individual that defines and requires using the material at Kokomo Morgan Street, it can be a Delphi Employee or working in its behalf. That includes contractors and service providers which follow the process through their Delphi contact

Additional Information:

Procedures:

CPR12.54-1 Chemical Material Assessment Procedure

CPR 12.3-1Hazardous Material Control Program Procedure

Work Instructions:

None

Forms:

None

Training:

http://msdsnet.delphiauto.net/CommonMaterial/Documents/MARs_requester_training.ppsx

Revision Record

Reason for Revision	Issue Date	Person Responsible
Initial release	10/28/10	Dennis Heath, Tim Renner, Aldo Gomez, Paul Ruegamer
Update to include Plant Administrator and Technical Reviewer responsibilities and clarify how contractors process requests	01/25/11	Aldo Gomez

EFFECTIVE DATE: 10-28-10

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Source: (Delphi, 2010d).

Appendix H Other Agency Consultation

Indiana Department of Environmental Management

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 7, 2011

Thomas Easterly, Commissioner
Indiana Department of Environmental Management
100 N. Senate Ave.
Mail Code 50-01
Indianapolis, IN 46204-2251

RE: Delphi Kokomo, IN Corporate Technology Center Project

Dear Mr. Easterly:

With the support of the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL), the Delphi Automotive Systems, LLC (Delphi) proposes to construct a lab for testing electronic devices and associated utilities building referred to as the "Delphi Kokomo, IN Corporate Technology Center" (Delphi CTC Project or Project). Funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act), the Delphi CTC Project would advance NETL's Vehicle Technology Program as well as assist in the nation's economic recovery by creating manufacturing jobs in the United States. Federal funding may be committed by NETL for the fieldwork contemplated, and the federal action (i.e. DOE's Proposed Action) is to provide approximately $89.3 million to implement Delphi's Proposed Project.

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The lab does research and development on power electronics products that include direct current to direct current (DC-DC) converters, which convert DC voltages in hybrid and electric vehicles. The work involves Printed Circuit Board Assembly, Stick Lead and Conformal Coating application, and Final Assembly, which includes Friction Welding and Electrical Testing.

DPSS OE Service Test Development Lab
The objective of the Delphi Product and Service Solutions (DPSS) Original Equipment (OE) Service Test Development Lab is to design, build, and implement remanufacturing test services for a wide variety of products including audio; Powertrain Engine Control Module (ECM); Heating, Ventilating, and Air Conditioning (HVAC); Body Control Module (BCM); and Integrated Body Control Module (IBCM) products. The lab provides hardware and software for testing these products in the partnered remanufacturing shops. The lab is 8,000 to 10,000 sf and would have 8 to 10 engineers/technicians.

DOE is requesting information or concerns you may have on environmental issues in the vicinity of the proposed Delphi project site. Any information you provide will assist the Department in the preparation of an environmental assessment (EA).

DOE will provide you a copy of the Draft EA, once completed, where you may again respond to any specific concerns you may have. All correspondence(s) with your office will be included in an appendix to the EA. At this time, DOE is anticipating a 30-day public comment period.

Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. Should you require additional information, please contact me by telephone at (412) 386-5428 or by email at pierina.fayish@netl.doe.gov.

Thank you in advance for your consideration.

Sincerely,

Pierina N. Fayish

Pierina Fayish
NEPA Document Manager

Enclosure

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 7, 2011

Rick Peercy
District 7 Wildlife Biologist
Indiana Department of Natural Resources, Fish and Wildlife Division
4112 E. SR 225
West Lafayette, IN 47906

RE: Delphi Kokomo, IN Corporate Technology Center Project

Dear Mr. Peercy:

With the support of the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL), the Delphi Automotive Systems, LLC (Delphi) proposes to construct a lab for testing electronic devices and associated utilities building referred to as the "Delphi Kokomo, IN Corporate Technology Center" (Delphi CTC Project or Project). Funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act), the Delphi CTC Project would advance NETL's Vehicle Technology Program as well as assist in the nation's economic recovery by creating manufacturing jobs in the United States. Federal funding may be committed by NETL for the fieldwork contemplated, and the federal action (i.e. DOE's Proposed Action) is to provide approximately $89.3 million to implement Delphi's Proposed Project.

Delphi's Proposed Project would occur in Kokomo, Howard County, Indiana in an existing headquarters complex currently owned by Delphi (See below figure). The project would include the construction and operation of site improvements (roads, parking, buildings, landscaping, and lighting), which specifically includes a 10,000 square foot (sf) utilities building containing boilers and heaters and a 70,000 sf engineering laboratory containing the following functional lab spaces.

Power Electronics Development Lab
The Power Electronics Development Lab would facilitate the design, build, and test of next generation electric and hybrid vehicle products. Power Electronics consists of two major areas: 1) development area for power electronics components (build and bench test areas) and 2) the propulsion system dynamometer test area. These labs would have approximately 10 full-time residents with up to an additional 20 people.

Validation Lab
The Validation Lab would validate that the desired product meets negotiated customer specifications for durability and reliability. The lab has three distinct disciplines within its organization: Environmental Lab, Dynamics Lab, and Electromagnetic Compatibility Lab. The lab negotiates requirements for testing the product with the customer, develops the hardware and software platforms to interface with the product, and performs the testing on the product. The facility would employ 54 permanent personnel.

626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236

Proto Lab
The lab does research and development on power electronics products that include direct current to direct current (DC-DC) converters, which convert DC voltages in hybrid and electric vehicles. The work involves Printed Circuit Board Assembly, Stick Lead and Conformal Coating application, and Final Assembly, which includes Friction Welding and Electrical Testing.

DPSS OE Service Test Development Lab
The objective of the Delphi Product and Service Solutions (DPSS) Original Equipment (OE) Service Test Development Lab is to design, build, and implement remanufacturing test services for a wide variety of products including audio; Powertrain Engine Control Module (ECM); Heating, Ventilating, and Air Conditioning (HVAC); Body Control Module (BCM); and Integrated Body Control Module (IBCM) products. The lab provides hardware and software for testing these products in the partnered remanufacturing shops. The lab is 8,000 to 10,000 sf and would have 8 to 10 engineers/technicians.

DOE is requesting information or concerns you may have on endangered and threatened species as well as other environmental issues in the vicinity of the proposed Delphi project site. Any information you provide will assist the Department in the preparation of an environmental assessment (EA).

DOE will provide you a copy of the Draft EA, once completed, where you may again respond to any specific concerns you may have. All correspondence(s) with your office will be included in an appendix to the EA. At this time, DOE is anticipating a 30-day public comment period.

Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. Should you require additional information, please contact me by telephone at (412) 386-5428 or by email at pierina.fayish@netl.doe.gov.

Thank you in advance for your consideration.

Sincerely,

Pierina N. Fayish

Pierina Fayish
NEPA Document Manager

Enclosure

Please note for both letters the enclosure was the CTC site map (Figure 2.1-1).