FINAL WELL AND SURFACE WATER USE SURVEY SUPPLEMENTAL RI WORKPLAN HARLEY-DAVIDSON MOTOR COMPANY OPERATIONS, INC. YORK VEHICLE OPERATIONS FACILITY YORK, PENNSYLVANIA

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December 2005
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YORK VEHICLE OPERATIONS FACILITY
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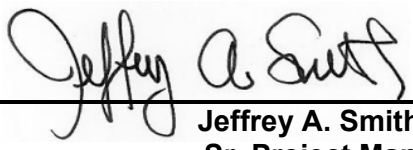

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EXECUTIVE SUMMARY

Langan Engineering and Environmental Services, Inc. (Langan) for Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson) has prepared this updated Well and Surface Water Use Survey for the vicinity of the Harley-Davidson York, Pennsylvania facility. This task completes one element of the Draft Supplemental Remedial Investigation Workplan. The scope of this task has been approved by the USEPA under a Facility Lead Agreement between Harley-Davidson and the USEPA. In February 2005, Harley-Davidson filed a Notice of Intent to Remediate the site in accordance with the Pennsylvania Land Recycling and Remediation Standards Act (Act 2). Harley-Davidson is proceeding towards obtaining a Release of Liability under Act 2 and an eventual Final Agency Determination under the Resource Conservation and Recovery Act (RCRA). This is in accordance with the One Cleanup Program via the Memorandum of Agreement between the Pennsylvania Department of Environmental Protection (PADEP) and Region III of the Unites States Environmental Protection Agency (USEPA). The USEPA has requested that this Well and Surface Water Use Survey task be completed while the Draft Supplemental Remedial Investigation Workplan is being further revised.

Initially following a Well and Surface Water Survey Workplan submitted to USEPA on 9 April 2003, Langan researched readily available public information databases, records, and requested information/records from various public agencies, including the local water purveyor, York Water Company. As a first phase, this was done to determine the well and surface water use for an area within one-mile down gradient of the facility. For the entire area, pertinent and publicly available information was reviewed to identify possible well and surface water uses that could be affected by groundwater impacts that may migrate from the site. The results of those initial efforts were presented in a March 2004 report.

USEPA provided comments on the initial well and water use survey in a letter dated 24 May 2004. In a written response to USEPA's comments dated 9 July 2004, Harley-Davidson committed to:

- Confirm public drinking water service connections and the non-use of private water wells as primary drinking sources in the vicinity of the facility. Mail well survey questionnaires to properties north of Interstate 83 in the down gradient area and immediately north and east of the Harley-Davidson property.

- Classify and characterize the ecological and human health uses of identified surface water(s) and springs possibly affected by the facility.

Because the existence of additional private wells within the search area could not be entirely ruled out by our previous efforts, a private well survey and questionnaire was mailed to property owners in the down gradient survey area north of Interstate 83 and immediately north and east of the Harley-Davidson property. Also, on 6 October 2004, a Langan wetland scientist and wildlife biologist visited the Harley-Davidson site in order to perform field reconnaissance and characterize the observed and inferred ecological and human health uses of surface water and springs near the property.

The results of the door to door well survey reveal that 31 private wells were identified within the search area but only nine of those private wells are reportedly used as a primary water source for drinking and cooking. Of the nine wells that are used for drinking and cooking, eight of them are located about 1,900 feet to the east-southeast of the Harley-Davidson property and are concentrated in a neighborhood near Eleventh Street. Based on the remedial investigations and groundwater elevation data for the property, these wells are not located directly down gradient of the Harley-Davidson facility. The ninth private well is designated as RW-4 and is located to the northeast of the property. Samples are annually collected from this well as part of ongoing monitoring activities by Harley-Davidson.

Following EPA's March 31, 2005 comments on the Draft Updated Well and Water Use Survey Report, EPA requested limited sampling of off-site private water wells in specific locations to confirm that potential human exposure at the Harley-Davidson facility is under control. Langan coordinated contacting the residents/property owners via certified mail to obtain access and SAIC scheduled and performed the sampling of wells. Two field data reports were prepared by SAIC that present the findings and results of their off-site private well sampling efforts.

The analytical data for the off-site private wells located north, east and southeast of the site that were recently sampled in July-August 2005 by SAIC for Harley-Davidson indicate none of the target volatile organic constituents were found in these off-site wells at concentrations above the drinking water MCLs. These findings are consistent with the site conceptual model and characterization of groundwater flow that has been documented for the site. Based on these data, current human exposures via the groundwater pathway associated with the Harley-Davidson facility are under control.

INTRODUCTION

Langan Engineering and Environmental Services, Inc. (Langan) for Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson) has prepared this updated Well and Surface Water Use Survey for the vicinity of the Harley-Davidson York, Pennsylvania facility. This task completes one element of the Draft Supplemental Remedial Investigation Workplan and the scope of this task has been approved by the USEPA under a Facility Lead Agreement between Harley-Davidson and the USEPA. In February 2005, Harley-Davidson filed a Notice of Intent to Remediate the site in accordance with the Pennsylvania Land Recycling and Remediation Standards Act (Act 2). Harley-Davidson is proceeding towards obtaining a Release of Liability under Act 2 and an eventual Final Agency Determination under the Resource Conservation and Recovery Act (RCRA). This is in accordance with the One Cleanup Program via the Memorandum of Agreement between the Pennsylvania Department of Environmental Protection (PADEP) and Region III of the Unites States Environmental Protection Agency (USEPA). The USEPA has requested that this Well and Surface Water Use Survey task be completed while the Draft Supplemental Remedial Investigation Workplan is being further revised.

In April 2003, Langan researched readily available public information databases, records, and requested information/records from various public agencies, including the local water purveyor, York Water Company. As a first phase, this was done to determine the well and surface water use for an area within one-mile down gradient of the facility. Because the existence of additional private wells within the search area could not be entirely ruled out by our previous efforts, a private well survey and questionnaire was mailed to property owners in the down gradient survey area north of Interstate 83 and immediately north and east of the Harley-Davidson property. Also, on October 6, 2004, a Langan wetland scientist and wildlife biologist visited the Harley Davidson site in order to perform field reconnaissance and characterize the observed and inferred ecological and human health uses of surface water and springs near the property.

Following EPA's March 31, 2005 comments on the Draft Well and Water Use Survey Report, EPA requested limited sampling of off-site private water wells in specific locations to confirm that potential human exposure at the Harley-Davidson Motor facility is under control. On behalf of Harley-Davidson, Langan coordinated contacting the residents/property owners via certified mail to obtain access and SAIC scheduled and performed the sampling of off-site private wells.

A summary of the prior and updated well and surface water use information obtained as part of this advanced well and surface water use survey phase is presented in this report.

The information sources used to assess well and surface water use include:

- Various public agency database records as referenced in the report;
- York Water Company records, to the extent accessible and available;
- Well surveys/questionnaires sent certified mail to 526 property owners in the vicinity as referenced in the Well and Water Use Survey Report;
- Direct personal communication with some property owners/ representatives as referenced in the report;

- Excerpts taken from, Interim Report Regarding the Ongoing Investigation of Groundwater Quality at the Harley-Davidson, Inc. York Facility, 1987, R.E. Wright Associates, Inc. as included in Appendix A of the report;
- Report of Investigations in the Northeastern Property Boundary, TCA Tank, and Containment Areas of the Harley-Davidson, Inc. York Facility, August 1988, R.E. Wright Associates, Inc.

PREVIOUS WELL SEARCH EFFORTS

In 1987, R.E. Wright (now SAIC) for Harley-Davidson conducted door to door and telephone surveys of residences and businesses adjacent to and immediately surrounding the Harley-Davidson facility to identify groundwater supply wells and their reported use in the vicinity. Notes from the door to door and telephone surveys and figures that summarize the findings of these previous efforts are provided in Attachment A. An overview of the previous well search findings is described below.

R.E. Wright's initial efforts identified four residences with wells; one to the northwest and three to the north. Reportedly, only two of these four residential wells (Folk – 677 Paradise Road and Treadway – Sand Bank Road) were used as the primary water supply. R.E. Wright expanded their initial well search efforts and proceeded to contact area property owners directly over a broader area to inquire about well use for their property. Eventually, a total of 65 homes were contacted by R.E. Wright and according to their January 1987 report, only nine homes were found to have a water supply well or spring that was used as a primary water supply at that time. Reportedly, two of the homes that R.E. Wright contacted had a well that was used for supplemental use like car washing and lawn watering. Seven other homes had wells at one time but they were reportedly abandoned.

R.E. Wright contacted businesses located to the south of the Harley-Davidson property as they are immediately down gradient (based on the general direction of groundwater flow) of the property. In total, twelve businesses were contacted and eight of those twelve reported no “known active or inactive wells”. At that time, the Jack Giambalvo Pontiac Dealership reportedly used a well at their property for all water needs at the facility. Since that time, a public water service connection has been provided to the Giambalvo Pontiac dealership property and the water well is no longer in use at the property. R.E. Wright’s report did not provide specific information in regard to the presence of wells for the three remaining business to the south that were contacted at that time; specifically, Carpet Mart and two properties associated with “Cole Business Furniture” (see Figure 2-1 in Attachment A).

INITIAL WELL AND SURFACE WATER SURVEY

Langan completed well survey efforts to supplement, update and confirm the previous data reported by R.E Wright. The search area for conducting this survey was defined to consist of those areas projected to be one-mile down gradient of the subject property. All data that was ascertained was compiled and evaluated by Langan to develop an initial list of potential groundwater and surface water users/receptors within the search area. Using Geographic Information System (GIS), geographical coordinates were assigned to all potential receptors identified. These coordinates were converted to planar coordinates and projected onto a site base map. A digital orthophotoquad photo (flown

in May 2002) was used as the base map to show actual land features, such as homes, roads, and other structures.

Through cross-referencing the unique values assigned to the potential receptors against the multiple data sources using spatial analysis (with GIS), redundant values were eliminated to the extent practical, and a comprehensive data set containing unique records was prepared. Records derived from multiple sources were combined to provide a comprehensive record of potential receptors.

Potential Groundwater Well Use

Groundwater well data available through the multiple sources was reviewed and compiled for the initial one-mile down gradient search area. These information sources included:

- the Pennsylvania Spatial Data Access (PSDA) system,
- the United States Geological Survey Ground Water Site Inventory (GWSI) data for Pennsylvania,
- the Pennsylvania Department Environmental Protection (PADEP) Water Supply Management (WSM) database,
- the Pennsylvania Department of Conservation and Natural Resources (PADCNR) Geological Survey - Groundwater Information System (PaGWIS),
- and previously gathered data and reports relevant to the Harley-Davidson site.

All identified wells were given unique symbols to reflect the designated use of water (e.g. industrial, domestic, or institutional) and type of well (e.g. withdraw, test, or mine). It should be noted that according to the PADEP, there are database entry errors associated with the designated use of water in the informational database that is managed by the Geological Survey. In translation from field notes to the actual entry into the database, wells designated in the field as “M” were commonly entered as “mine” wells but should have been entered as “monitoring wells”. This data entry error is reportedly being corrected on an ongoing basis. Based on the records reviewed in December 2003, 85 wells of various types were identified within the one-mile down gradient area of the facility. These wells are summarized in a table and a figure included in Attachment B – Initial Well and Water Use Survey. A breakdown of the reported type/use of each well is provided below:

- Seventy-three (73) wells were identified as wells that are not supplying water for use. Of those 73 wells, thirty (30) have been designated as “Test wells or Monitoring wells”, forty-two (42) have been designated as “Mine wells”, and one (1) well record had no data for the use of water or the use of the site. Langan contacted the PA DNCR to clarify the designation of a "mine" well. In speaking with Mr. Tom McElroy, he stated that the "mine" entry was a common data entry error and most well's labeled "Mine", that have a well screen should actually be referred to as monitoring wells. (Mr. McElroy stated this problem is going to be corrected in the next version of the PAGWIS database, which is currently in final review). Thirty-eight (38) of the 42 wells identified as “Mine” wells have a well screen and likely should be designated as “monitoring wells”. The remaining four (4) of the “Mine” wells had no information about the construction of the well. However, based on the locations of these four wells and their listed owner, these

wells appear to be associated with groundwater monitoring activities. Where practical, we have contacted representatives of some of these properties and have confirmed that wells designated as "mine" use are actually groundwater monitoring wells.

- Six (6) residential wells (RW) were ascertained from previously gathered data and reports prepared by previous consultant's to Harley-Davidson. These wells are designated RW-1 through RW-6 on Figure 1. RW-2 and RW-4 are regularly monitored by Harley-Davidson on an annual and quarterly schedule, respectively. The most recent analytical results for water samples collected from RW-2 and RW-4 are summarized in tables obtained from SAIC as provided in Attachment C.

- Four (4) reported industrial withdrawal wells (two for York Silica Sand to the north and southwest, and one each for Hilderbrand Machine Co. Inc. to the west and Memco to the south) have been identified. Memco (also known as American Kitchens and Granite, Inc.) indicated that they maintain a water well and use their well water for fabrication. They reported that their current source of drinking/cooking water is bottled water. The other wells at Hilderbrand Machine Co. Inc. and York Silica Sand have not been field verified.

- Two (2) reported domestic wells (Ward Investment to the east and Mortorff, Leroy to the southeast) were identified. Based on the review of the water purveyor records and service maps, it was determined that both of these properties are within the mapped York Water Company public water service area. A completed well survey was eventually acquired for the Ward Investment property and while they reportedly have a well, it is only used for sanitary purposes. They reportedly use bottled water for drinking purposes.

- One (1) Industrial/Spring (Rutter's Dairy) has been identified about 3,800 feet off-site and to the northwest. The mapped location of this spring actually falls just outside and to the north of the designated search area of interest and the spring is reportedly used for industrial purposes. This well/spring has not been field verified.

The search results indicate that there are no public water supply wells or surface water intake locations within the search area. This information was verified using the PADEP Bureau of Watershed Management's (BWM) internet-based system. This system indicates whether or not a source is located within a designated area but, for security reasons, is designed to protect the exact location of such sources. Information on exact source locations is provided by the PADEP by an in-person application process only.

The groundwater well use search also included a review of the water purveyor records and service maps for the predominantly residential areas immediately to the east, southeast, and south of the site. This review was performed with the assistance of Ms. Cindy Howell of the York Water Company at their York City offices. Individual water service records were requested from York Water Company by contacting Ms. Howell and Mr. Jeffrey R. Hines, Vice President of Engineering at York Water Company. Ms. Howell and Mr. Hines expressed that they are not able to provide individual service/billing records for the areas we requested because they do not have the

available resources and their records are too numerous and not in a format that would allow them to be practically reviewed for the request area. However, Langan was provided access to maps that show York Water Company's water service areas and dates of installation for the area of interest. For security reasons, York Water Company does not permit copies of these water service maps to be made but they were willing to allow Langan to review them at their Distribution Center in Spring Garden Township.

On January 20 2004, Langan personnel visited the York Water Company Distribution Center in Spring Garden Township, Pennsylvania. The purpose of the visit was to review all relevant water supply maps within the one mile, down gradient search area of the subject site. Ms. Cindy Howell of the York Water Company provided access to the maps.

The objective of the visit was to verify the locations of water mains, as well as the date of the installation or facility upgrades. Ms. Howell stated that given the coverage of the York Water Company service area in proximity to the developed areas in the immediate vicinity of the Harley-Davidson property, it is likely that these properties are serviced by the public water supply system. Based on our review of the service maps (which were updated in the past 6 months prior to our review of information in December 2003) and records, the one mile down gradient area of interest has mapped public water service systems. The date of installation for some of these areas is reportedly as long ago as the 1890's with some of the more recent water service upgrades occurring in 1998. While there is no requirement by York Water Company that mandates properties to be connected to the public water supply system, the water service information held by York Water Company indicates that water service is provided and available throughout the one mile downgradient area in the vicinity of the Harley-Davidson.

Additional Resources Contacted

Public Health Department

During this evaluation, Langan contacted the York City Health Department and requested available information pertaining to any investigations of drinking water supply sources in the region. The York City Health Department stated that they were unaware of any investigations and referred Langan to the PADEP. Langan contacted the State Health Department that has assumed the role of the former York County Health Department and spoke with Chris Sanders in the Public Health Department. Mr. Sanders stated that he was unaware of any system in place to track any drinking water supply source investigations. Mr. Sander's also referred Langan to other offices of the PADEP.

Susquehanna River Basin Commission

Additionally Langan contacted the Susquehanna River Basin Commission (SRBC). River basin commissions are generally responsible for water supply allocation and maintain records pertaining to surface water withdrawal and groundwater withdrawal (typically by sub-basin) for commercial/industrial, public supply, and domestic supply wells. Ms. Paula Ballaron of the SRBC stated that, due to the sensitivity of this information her help would be limited and suggested contacting the PADEP for information on public supply and domestic supply sources.

York County Solid Waste and Refuse Authority

Langan contacted Mr. Rich Hazenstab, Hydrogeology/Compliance Coordinator for York County Solid Waste and Refuse Authority. Mr. Hazenstab stated that to the best of his knowledge, there were never any water supply wells associated with the facility but they do maintain monitoring wells as a requirement for the permitting as a waste disposal facility.

York City Wastewater Treatment Plant

The York City Wastewater Treatment Plant was also contacted regarding any available information related to hydrogeologic studies or data associated with the plant. Langan was initially directly transferred to an unidentified employee of the York Wastewater Treatment Plant who stated that no hyrogeologic studies have been performed in years at the property and data and information from previous studies was archived and not readily available. The employee was asked whether any groundwater supply wells were in use at the property and he responded that there are no longer wells at the property as they "all got filled in many years ago".

Hilderbrand Machine Company

Langan also contacted Mr. David Hilderbrand, of Hidlerbrand Machine Company located immediately west of Codorus Creek near the York County Solid Waste property. Well records indicated a water supply well at this property. Mr. Hilderbrand confirmed that a water supply well was drilled at the property in the early 1980's but the water had a high sulfur content and was never used for drinking water purposes because of the bad odor and taste. In the late 1980's the well was abandoned after connecting to the public water service.

WATER WELL USE SURVEY AND QUESTIONNAIRE

To verify the location and use of water wells for the search area surrounding the Harley-Davidson property, a letter explaining the purpose of the well survey and an attached survey/questionnaire was prepared to solicit information about well use and water service for each parcel in the search area (Attachment D). The public tax records for properties of interest were accessed via the York County Geographic Information Access System on the worldwide web (http://207.140.67.68/york/) to build a database of addresses. For parcels that appeared to contain obviously insufficient or incorrect address information, further contact with the York County Tax office was made to reconcile the information supplied via the GIS database. A total of 526 letters and well survey questionnaires were sent via certified mail (return receipts requested) to property owners/tenants within the designated search area. After the initial mailing, items that may have been returned due to insufficient or incorrect address information were reconciled, as practical, using best efforts that included further direct communication with the Tax Office and field reconnaissance/verification. Using corrected address information, a second letter and well survey questionnaire was sent to those properties.

Of the 526 surveys that were originally mailed, 347 completed surveys were received (provided in Attachment D) and about 158 owners/tenants did not respond to the well survey. For the remaining 21 properties contacted, the property representative's indicated public water service is provided but did not clearly indicate whether or not a water well was or was not associated with the property. A summary of mailing addresses and responses for all surveys mailed is included in Attachment D.

OFF-SITE PRIVATE WELL SAMPLING

Following EPA's March 31, 2005 comments on the Draft Updated Well and Water Use Survey Report, EPA requested limited sampling of off-site private water wells in specific locations to confirm that potential human exposure possibly associated with the Harley-Davidson facility is under control. Langan coordinated contacting the residents/property owners via certified mail to obtain access and SAIC scheduled and performed the sampling of wells. Two field data reports prepared by SAIC that present the findings and results of their off-site private well sampling efforts are provided in Attachment E. A summary of their findings is provided below.

On June 20, 2005 and July 15, 2005, Langan sent certified mail letters to fifteen residents/property owners located north, east and southeast of the Site. The letters requested access to each property to collect private well water samples. Eleven of the 15 properties contacted responded to the request and three of them reported they did not have a well on their property. The three properties that were reported to be serviced by public water and have no well associated with them are:

- 810 Bonneview Street;
- 1425 North Sherman Street; and
- Tax Parcel ID 46-000-06-0183-00 actually located at 1325 Canterbury Lane. (Note: During the course of this effort, it was discovered that the address originally designated for this parcel was incorrectly listed in our records as 1327 North Sherman Street which is not an existing address. According to the Tax Map, Tax Parcel ID 46-000-06-0183-00 is actually located at 1325 Canterbury Lane).

Two of the 11 responses indicated that wells were formerly associated with the properties at 1430 North Sherman Street and 1929 North Sherman Street but the former wells were no longer in use or accessible to collect samples. The former well at 1430 North Sherman Street was reported by the owner/resident to have been a hand dug well that was filled in with bricks and concrete. At 1929 North Sherman Street, the owner/resident reported a well was once located in a former coal storage cellar but the well had been filled.

The property located at 1306 East Eleventh Avenue is currently vacant and undergoing renovations. SAIC discovered that the property has changed owners since the initial well survey questionnaire was mailed in September 2004. Attempts to reach the current owner contact have been unsuccessful, and the existence of a well has not been identified. The resident/owner at 1105 Eberts Lane has not responded to telephone calls from SAIC and the existence of a well at that property has not been verified. A letter was also mailed to Tax Parcel 46-000-06-0064-A0 on June 20, 2005 but a

response has not been received. This property appears to be a vacant parcel. According to the initial well survey questionnaire received for 1209 Eberts Lane, a well is reported to exist at this property but the property is now connected to public water. The property owner has not responded to the July 15, 2005 well sampling request letter and the existence of a well has not been verified. To date, samples have not been collected from these properties.

Although the owner/resident at 1350 East Eleventh Avenue did not respond to Langan's well survey, SAIC learned through contact with the property owner/resident that a well exists at this property. Although letters were mailed to 1116 East Eleventh Avenue and at 1118 East Eleventh Avenue, these properties are owned by the same entity and only one well exists which provides water to both of the properties.

With permission/access granted, private well water samples were collected by SAIC from five properties located along East Eleventh Avenue southeast of the site and one property on North Sherman Street which is immediately east of the site.

- 1116 East Eleventh Avenue
- 1350 East Eleventh Avenue
- 1120 East Eleventh Avenue
- 1318 East Eleventh Avenue
- 1126 East Eleventh Avenue
- 1770 North Sherman Street

The well water samples were sent to Severn Trent Laboratories of Edison, New Jersey, a Pennsylvania certified laboratory. The well water samples were analyzed for the presence of volatile organic compounds (VOCs) that have been identified as the target compounds that may potentially be present in area groundwater.

Analytical results for well water samples collected reveal that only three of the target volatile organic constituents (Trichloroethene, Tetrachloroethene and Chloroform) were detected. The reported concentrations of these few target constituents are near or below the laboratory detection limit or 1 microgram per liter. None of the constituents detected were found at concentrations above the Federal Maximum Contaminant Levels (MCLs) for drinking water.

INVESTIGATION RESULTS FOR AREA WELL USE

Based on the information supplied in the completed well surveys, the off-site private well sampling activities and the review of R.E. Wright's report entitled "Interim Report Regarding the Ongoing Investigation of Groundwater Quality at the Harley-Davidson, Inc. Facility" (1987), Langan confirmed the following well use for the search area:

- Twenty-two properties reportedly have a well but are connected to the public water service. Only two of the 22 property owners/tenants claim to use the well at the property for limited outdoor uses but not for consumption. An information summary for these wells is provided in Table 1.

- In a previous report entitled, “Interim Report Regarding the Ongoing Investigation of Groundwater Quality at the Harley-Davidson, Inc. York Facility” prepared by R.E. Wright Associates (1987) forty-eight residents/properties were identified as “Residences Contacted that Have No Wells”. Of those properties listed in that report at the time, eleven of them did not respond to Langan’s 2004 well survey but are assumed to not have a well based on this previous information.

- Additionally, one water well is associated with a resident/property owner that is not confirmed by Langan’s 2004 survey but is identified in R.E. Wright’s Interim Report (1987) and in “Table 1: Off-site Chemical Analysis Summary – Well Sampling” which was compiled by SAIC using the existing analytical chemistry database maintained for the Site. While the previous well survey data indicates a well was associated with this property (2100 Pleasant View Drive), the current status and use of this well is not verified by Langan’s recent well survey efforts.

- Only nine properties reportedly have a well that is used for drinking and cooking purposes. Eight of these properties are concentrated in an area that is located about 1,900 feet east-southeast of the Harley-Davidson property near Eleventh Street. According to records held by the York Water Company, 1350 East Eleventh Avenue (Tax Parcel 46-000-06-0062-00) is not serviced with public water. The use of a well located at 1350 East Eleventh Avenue as a primary drinking water source, after several attempts, has not been verified. Well water samples for five of these nine wells were collected in August 2005 by SAIC. No wells were found to contain any target volatile organic constituents at concentrations above health-based maximum contaminant levels in drinking water. The other or ninth of these properties is located immediately north of the Harley-Davidson property on Paradise Road. This well use was verified by previous well survey efforts in 1987 and Harley-Davidson monitors the groundwater conditions in this well (RW-4) on a regular basis. Analytical results for samples recently collected in November 2004 and February 2005 from this well indicate that none of the targeted volatile organic constituents were detected above the laboratory method detection limits. An information summary for these wells is provided in Table 1a.

A map that summarizes the results from the well use survey and review of historical data from R.E. Wright’s previous report entitled, “Interim Report Regarding the Ongoing Investigation of Groundwater Quality at the Harley-Davidson, Inc. York Facility” (1987) is provided as Figure 1.

An abundance of historical remedial investigation data that has been produced to characterize the site conditions since the mid 1980’s consistently and independently document groundwater flow is to the west and south and not to the east and southeast in the direction of nearby off-site private wells. Groundwater contours in the overburden, shallow bedrock, and deep bedrock aquifers reflect a generalized direction of

groundwater flow from east-northeast to the west and south-west beneath the Site. In the south-southeastern portion of the property, a component of flow to the south is interpreted and is likely associated with the mapped geologic contact and hydraulic conductivity contrasts between the quartzite and carbonate bedrock. Specifically, these consistent findings are presented in reports that include: the *Interim Report Regarding the Ongoing Investigation of Groundwater Quality at the Harley-Davidson, Inc. York Facility (R.E.Wright Associates, Inc. January 1987); Draft Southern Property Boundary Area; Interim Study Report; Harley-Davidson, Inc. Facility; York, Pennsylvania* (*R.E.Wright Associates, Inc.* September 1996); and the *Draft Interim Site-Wide Remedial Investigation Report, Harley-Davidson Motor Company, York, Pennsylvania (Langan Engineering & Environmental Services, Inc. July 2002).* Mill Creek to the south is a losing stream and Codorus Creek to the west is the regional groundwater discharge boundary.

The analytical data for the off-site private wells located north, east and southeast of the site that were recently sampled in July-August 2005 by SAIC for Harley-Davidson indicate no target volatile organic constituents were found in these off-site wells at concentrations above the drinking water MCLs. These findings are consistent with the site conceptual model and characterization of groundwater flow that has been documented for the site. Based on these data, current human exposures via the groundwater pathway associated with the Harley-Davidson Motor Company facility are under control.

SURFACE WATER FEATURES AND SPRINGS

Initially, information on surface water sources was gathered from the PSDA system, USGS GWSI data for Pennsylvania, the PADEP, and local agencies. This information has identified ten (10) surface water features and nine (9) springs with in the search area. The surface water features are shown on Figure 2. The primary surface water feature in the search area is the Codorus Creek, which is located approximately 0.12 mile from the western property boundary.

Seven of the ten mapped features are unnamed tributaries that are assigned identification numbers by the State. They include:

- Tributary 08056 and 08055, located approximately 0.75 mile from the western property boundary of the facility;
- Tributary 08061 and 08062, located approximately 0.69 and 0.17 mile respectfully, from the eastern property boundary;
- Tributary 08063, located approximately 0.88 mile from the southeastern property boundary;
- Tributary 08079, located 0.94 mile from the southern property boundary; and
- Tributary 08059 (Johnson's Run) which enters the northern property boundary;

Two of the ten surface water features are named tributaries. They are;

- Mill Creek, approximately 0.31 mile from the southern property boundary; and
- Willis Run, 0.91 mile from the southwestern property boundary;

During previous remedial investigations, nine (9) springs were identified, with five (5) of the springs, S-1 through S-4 and S-8 being located on-site or immediately north of the property. One (1) of the springs, S-9 is located along the northwestern border of the search area. The remaining three (3) springs, S-5 through S-7 are located up gradient, to the north of the site. The approximate locations of springs S-4 through S-9 (Rutters Dairy, Inc.) are shown on Figure 2. Springs S-1 through S-3 were located near the north end of the former test track area that appears to have been within the area of disturbance associated with construction of the new manufacturing building that was constructed in 2002.

According to previous investigations at Harley-Davidson in the 1990's, S-5, S-6, S-7 and S-8 are four springs that at one time were a primary water source. Beginning in 1986, samples from each of these springs were collected. Monitoring at S-6 and S-7 by Harley-Davidson is continuing on a quarterly schedule. Further based on excerpts from a report entitled "Interim Report Regarding the Ongoing Investigation of Groundwater Quality at the Harley-Davidson, Inc. York Facility" and according to Harley-Davidson's records, the properties occupied by springs identified as S-5, S-6, S-7 and S-8 are serviced by public water.

On 6 October 2004, a Langan wetland scientist and wildlife biologist re-visited the Harley-Davidson site in order to update the reconnaissance and visual inventory of surface water features, springs and habitat that was performed in 1998.

Surface water features on the property include ephemeral, intermittent and perennial streams, a man-made pond, man-made drainage ditches/swales and palustrine habitats. A sketch of the approximate location of all surface water habitats is included in Attachment F.

Johnson's Run

Johnson's Run (Tributary 08059), a perennial stream, enters the site from the northeast near the intersection of Eden and Paradise Roads and flows in a westerly direction generally along the northern property boundary. The stream passes beneath Eden Road via three (3) reinforced concrete pipes north of the "Old Waste Containment Area" and the Building 40 Tank Farm area then continues west along the property line before being carried beneath Sand Bank Road. Johnson's Run continues through an off-site forested wetland area before its confluence with Codorus Creek, located approximately 550 feet west of the site.

Johnson's Run shows evidence of previous channeling and realignment. A thin forested riparian area occupies each side of the bank for most of its length. The only apparent ecological use of this feature is by native fish and small mammal populations. Raccoon tracks were identified along muddy potions of the creek bank area. There is no known human use of this water body and none was observed during our reconnaissance.

Intermittent Streams, Drainage Channels and Swales

A tributary to Johnson's Run originates at an overflow channel from a man-made pond located just east of Building No. 47. Flow from this pond is in a northerly direction within a deep and narrow channel. The pond appears to accept overflows from a newly constructed stormwater management detention basin to the east. Near the outfall for this basin, a small swale has formed.

A rip-rap channel accepts overland flows from the adjacent access drive leading south from Gate No. 5 and eventually drains to the unnamed tributary to Johnson's Run. A small spring is located along this rip-rap channel just north of where it crosses beneath the access drive.

An upland swale also drains to the unnamed tributary to Johnson's Run. This swale was recently constructed and contains erosion control matting along steeper portions of its length. The function of this swale appears to be to redirect overland flow from the large forested area to the east around the new SOFTAIL manufacturing building (Building 3). A portion of this swale contained apparent palustrine habitat.

A palustrine swale was identified near the western property boundary between the existing parking area and the newly constructed Eden Road realignment.

A small intermittent stream was also noted along the eastern property boundary within the forested area. Flows from this feature lead off-site to the east.

Pond

A man-made pond with banks lined by sheet pile wall is located just east of Building No. 47. On overflow structure directs any overflows from this pond to an unnamed tributary to Johnson's Run. The pond contained duckweed (*Lemna* sp.) and a significant amount of algae during our reconnaissance.

Potential Wetlands

Several apparent areas with palustrine plant species were observed on-site. The first is a small isolated feature located near the northeast corner of the new SOFTAIL manufacturing building immediately adjacent to the truck access road. This feature has formed in a small depression at the base of the slope to the east and drains to a drop-inlet located nearby.

A portion of the swale that redirects flow around the SOFTAIL manufacturing building contained palustrine plant species. This portion of the swale is identified on the sketch in Attachment F.

Portions of the unnamed tributary to Johnson's Run and Johnson's Run itself have small adjacent areas of palustrine plants along bank areas.

A forested area with palustrine habitat was observed just northwest of the intersection of Sand Bank Road and the new location of Eden Road.

The swale between the existing parking area and the newly constructed Eden Road realignment eventually drains to a large apparent wetland complex in the vacant property west of the site and east of Codorus Creek.

OBSERVED AND INFERRED WILDLIFE AND AQUATIC LIFE

Several white tail deer were spotted near the western property boundary near the railroad tracks. Evidence of deer including tracks and scat were found in more forested areas of the site. Other mammals likely to utilize the site based on secondary evidence of presence including scat and tracks are raccoon, skunk, red fox, gray squirrel and ground hog.

Small fish populations were observed within Johnson's Run at a point north of Building No. 57. No wildlife or aquatic life sampling was performed but minnows and dace species and other small stream species are typical and commonly found in this area.

Langan requested information from the Pennsylvania Natural Diversity Index (PNDI) program regarding the occurrence of threatened and or endangered species or their habitat on-site. In their response dated 18 October 2004, the program states "no potential conflicts were encountered during the PNDI inquiry." A copy of their response is included in Attachment G.

CONCLUSIONS AND RECOMMENDATIONS

Based on our review of the information accessed and reviewed, the following conclusions and recommendations on well and surface water use are made:

Surface Water Features

The general location and observed characteristics of surface water features at the property have been identified based on reconnaissance that was completed in October 2004 following the construction of the SOFTAIL manufacturing facility in 2002. Surface water features on the property include ephemeral, intermittent and perennial streams, a man-made pond, constructed drainage swales/ditches, and freshwater wetlands. During the reconnaissance, visual evidence of uses, habitat, wildlife and aquatic life associated with the property and these features were noted. During a previous phase of the remedial investigation, two rounds of surface water sampling and sediment sampling were conducted; the first sampling round was conducted between 8 and 9 June 1998 and the second round was conducted on 22 March 2000. Sampling points were established on-Site as follows: PSWS-1 and PSWS-2 in the on-Site Pond; S-1, S-2, S-3, S-4, and S-9 at identified springs; UTSWS-1 (upstream), UTSWS-2, UTSWS-3 (downstream) within a tributary to Johnson's Run. Results for those samples are discussed in the Draft Site-wide Remedial Investigation Report, Harley-Davidson Motor Company, York, Pennsylvania (July 2002).

A swale was identified off-site beyond the western property boundary between the existing parking area and the newly constructed Eden Road realignment. This swale eventually drains to a large apparent wetland complex that occupies the vacant property

west of the Harley-Davidson property and east of Codorus Creek. This property is not owned by Harley-Davidson and was not investigated as part of previous remedial investigation phase at the property. USEPA has requested that the off-site western property area be investigated as part of the supplemental remedial investigation workplan that is currently planned for the property in 2005-2006.

Well Water Use

- For the designated one-mile down gradient area, pertinent and publicly available information was reviewed to identify possible well and surface water uses that could be affected by groundwater impacts that may migrate from the site. The search results indicate that no public water supply wells or surface water intakes are located within the search area.

- The results of the well survey mailed in the summer of 2004 north of Interstate 83 and immediately north and east of the site reveal that 31 private wells were identified within the search area but only nine of those private wells are reportedly used as a primary water source for drinking and cooking. Of the nine wells that are used for drinking and cooking, eight of them are located about 1,900 feet to the east-southeast of the Harley-Davidson property and are concentrated in a neighborhood near Eleventh Street. The ninth well is located immediately north of the property boundary on Paradise Road. Based on the remedial investigations and groundwater elevation data, these wells are not located directly down gradient of the Harley-Davidson facility.

- Private well water samples were collected by SAIC from five properties along East Eleventh Avenue to the southeast and one property northeast of the site along North Sherman Street. Analytical results for well water samples collected reveal that only three of the target volatile organic compounds (Trichloroethene, Tetrachloroethene and Chloroform) were detected. None of the constituents detected were found at concentrations above the MCLs.

- The analytical data for the off-site private wells located north, east and southeast of the site that were recently sampled in July-August 2005 by SAIC for Harley-Davidson indicate no target volatile organic constituents were found in these off-site wells at concentrations above the drinking water MCLs. These findings are consistent with the site conceptual model and characterization of groundwater flow that has been documented for the site. Based on these data, current human exposures via the groundwater pathway associated with the Harley-Davidson Motor Company facility are under control.

Table 1

Properties with Wells Used as a Primary Water Source for Drinking and Cooking Purposes
(FOIA Exempt – Submitted Under Separate Cover)

Table 1a

Properties with Wells Not Used as a Primary Water Source for Drinking and Cooking Purposes
(FOIA Exempt – Submitted Under Separate Cover)

Figure 1

Results from Well Survey Questionnaire
(FOIA Exempt – Submitted Under Separate Cover)

Figure 2

Surface Water Locations, Well and Surface Use Survey
(FOIA Exempt – Submitted Under Separate Cover)

ATTACHMENT A

Previous Well Search Data – Selected Excerpt from R.E. Wright Associates, Inc.1987 Report – *Interim Report Regarding the Ongoing Investigation of Groundwater Quality at the Harley-Davidson, Inc. York Facility.*
(FOIA Exempt – Submitted Under Separate Cover)

ATTACHMENT B

Initial Well and Water Use Survey Information
(FOIA Exempt – Submitted Under Separate Cover)

ATTACHMENT C

Current Summary of Analytical Results for Water Samples Collected from RW-2 and RW-4 as Provided by SAIC
(FOIA Exempt – Submitted Under Separate Cover)

ATTACHMENT D

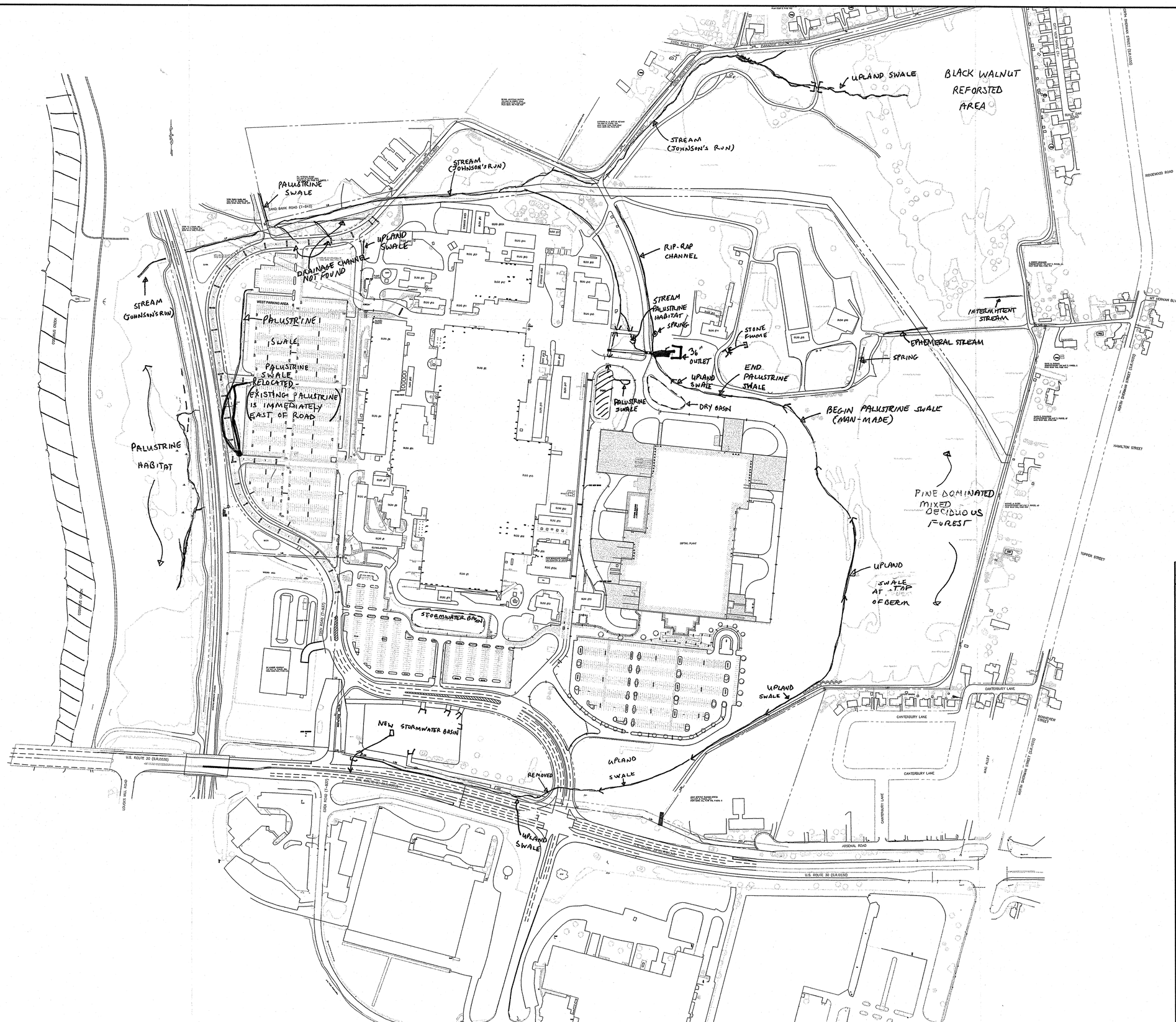
Example Letter and Survey Questionnaire, Mailing Addresses and Completed Water Well Surveys for Properties with Reported Water Supply Wells
(FOIA Exempt – Submitted Under Separate Cover)

ATTACHMENT E

SAIC Final Data Reports for the Off-site Private Well Sampling
(FOIA Exempt – Submitted Under Separate Cover)

ATTACHMENT F

Field Sketch - Surface Water Features and Habitat Reconnaissance,
Harley-Davidson Motor Company, Operations, Inc., York, Pennsylvania



Date	Description	No.
Revisions		

NAME DATE
PROFESSIONAL XXXXXXXXXXXX N.J. LIC. No.XXXXX

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NJ Certificate of Authorization No: 24GA27996400

Project

HARLEY-DAVIDSON MOTOR COMPANY OPERATIONS INC.

YORK **PENNSYLVANIA**

Drawing Title

FIELD SKETCH
SURFACE WATER FEATURES AND HABITAT RECONNAISSANCE

Project No. **1406705**	Drawing No. **1**
Date **8 MARCH 2005**	
Scale **1"=200'**	
Drn. By **DMM/JAS**	
Last Revised	Of

Filename: S:\Data7\1406705\Inbound Archive\Cadd Files\Topo.dwg Date: 3/8/2005 Time: 14:43 User: DMARLEY Style Table: Langan.stb Layout: D Size Sheet (Side)

ATTACHMENT G

Pennsylvania National Diversity Index Program (PNDI) Response

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

12 October 2004

Species Review Specialist
York County Conservation District
118 Pleasant Acres Road
York, PA 17402

Re: Critical Habitat/Endangered Species Determination
Harley Davidson Motor Company Operations, Inc.
1425 Eden Road
York, York County, Pennsylvania
Langan Project No. 1406701

Dear Sir/Ma'am:

Langan Engineering & Environmental Services, Inc. (Langan) is acting as agent for Harley Davidson Motor Company Operations, Inc. (Harley Davidson), the above referenced property owner, for environmental matters associated with an ecological resource inventory survey. Langan herein requests information regarding documented occurrences of critical habitat or endangered species on or in the immediate vicinity of the subject property.

The project site location, shown on the enclosed U.S.G.S. Site Location Map (York Quad), and Supplement No.1 – Pennsylvania Natural Diversity Inventory Search Form are enclosed to assist you in your review.

We look forward to receiving this determination from your office. If you should have any questions regarding this matter, please do not hesitate to contact me at 215 864-0640.

Respectfully,

Langan Engineering and Environmental Services, Inc.

Kimberly Labno

Kimberly Labno, A.P.S.Sc.
Wetland Scientist II

KAL:mls
Enclosure(s): Supplement No.1 – PNDI form
U.S.G.S. Site Location Map

cc: Jeff Smith, Langan

S:\Data7\1406701\PNDI Search Request Letter.doc

MAP REFERENCE: USGS Quadrangle Map – YORK (7.5 Minute Series)

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Elmwood Pk, NJ (201) 794-6900 | New York, NY (212) 479-5400 | Philadelphia, PA (215) 864-0640 | Doylestown, PA (215) 348-7101 | New Haven, CT (203) 562-5771 | Miami, FL (305) 362-1166 | Trenton, NJ (609) 656-2810

PROJECT

HARLEY DAVIDSON
WELL AND SURFACE WATER SURVEY
U.S.G.S. SITE LOCATION MAP

YORK **PENNSYLVANIA**

JOB NO.	DATE	SCALE	FIGURE NO.
1406701	10/11/04	1" = 2000'	1

3630-PM-WQ0041 Rev. 7/2000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER QUALITY PROTECTION
BUREAU OF WATERWAYS ENGINEERING

FOR OFFICIAL USE ONLY
PNDI Screening
Reviewer D. Leland
Date 10/18/04
Phone No. 717 840 7430

SUPPLEMENT NO. 1
PENNSYLVANIA NATURAL DIVERSITY INVENTORY SEARCH FORM

This form provides site information necessary to perform a computer screening for species of special concern listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, the Pennsylvania Fish and Boat Code or the PA Game and Wildlife Code. Records regarding species of special concern are maintained by PA DCNR in a computer data base called the "Pennsylvania Natural Diversity Inventory" (PNDI). Results from this search are not intended to be a conclusive compilation of all potential special concern resources located within a proposed project site. On-site biological surveys may be recommended to provide a definitive statement on the presence or absence, or degree of natural integrity of any project site. Results of this PNDI search are valid for one year.

Please complete the information below, attach an 8½" x 11" photocopy (DO NOT REDUCE) of the portion of the U.S.G.S. Quadrangle Map that identifies the project location and outlines the approximate boundaries of the project and mail to the appropriate DEP regional office or delegated County Conservation District prior to completing a Chapter 105 environmental assessment or any other DEP permit application. (SEE REVERSE SIDE FOR LIST OF OFFICES AND ADDRESSES).

NAME: Kimberly Labno

ADDRESS: Langan Engineering & Environmental Services, Inc.

30 South 17th Street, Suite 1500

Philadelphia, PA 19103

PHONE: (215) -8640640

COUNTY: York

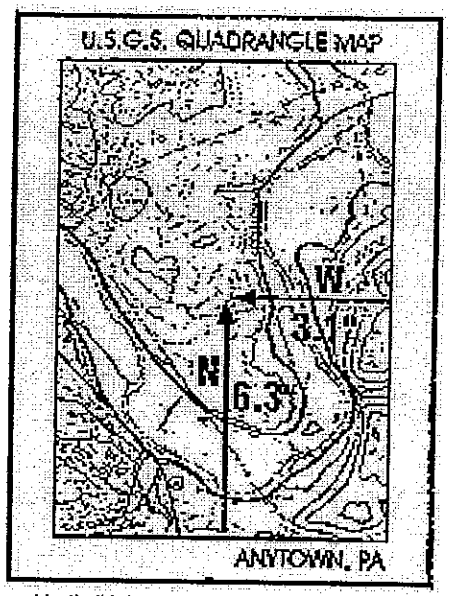
TWP./MUNICIPALITY: York

U.S.G.S. 7½ Minute Quadrangle

York

PROJECT DESCRIPTION AND SIZE (Briefly describe entire area relevant to your project, including acreage.)

No work is proposed at this time. The property owner is conducting an ecological resource inventory survey.



North (Up) 20 inches

West (to the left) 5 inches

INDICATE PROJECT LOCATION TO THE NEAREST ONE TENTH INCH MEASURING FROM THE EDGE OF THE MAP IMAGE FROM THE LOWER RIGHT CORNER.

FOR OFFICIAL USE ONLY

SCREENING RESULTS - Follow the directions of the checked block.

☒ No potential conflicts were encountered during the PNDI inquiry. Include this form and the PNDI receipt with your Chapter 105 environmental assessment or other DEP permit application submissions.

☐ Potential conflicts must be resolved by contacting the natural resource agencies listed on the PNDI receipt. Please provide a copy of this form and the PNDI receipt along with a brief description of your project to the listed agency for consultation and recommendations. Include this form, the printed PNDI search results and the natural resource agency's written recommendation with your Chapter 105 environmental assessment or other DEP permit application submissions.

PNDI Internet Database Search Results

PNDI Search Number: N156106
Search Results For yorkccd@yorkccd.org
Search Performed By: Robert Fetter On 10/18/04 11:54:44 AM
Agency/Organization: York County Conservation District
Phone Number: 717-840-7430
Search Parameters: Quad - 397686; North Offset - 20; West Offset - 5; Acres - 50
Project location center (Latitude): 39.98480
Project location center (Longitude): 76.66065
Project Type: DEP Permits/NPDES - Construction

Print this page using your Internet browser's print function and keep it as a record of your search.

No conflicts with ecological resources of special concern are known to exist within the specified search area.

PNDI is a site specific information system, which describes significant natural resources of Pennsylvania. This system includes data descriptive of plant and animal species of special concern, exemplary natural communities and unique geological features. PNDI is a cooperative project of the Department of Conservation and Natural Resources, The Nature Conservancy and the Western Pennsylvania Conservancy. This response represents the most up-to-date summary of the PNDI data files and is valid for 1 year. An absence of recorded information does not necessarily imply actual conditions on-site. A field site survey may reveal previously unreported populations of rare species, their critical habitats, or other unique natural resources.

Legal authority for Pennsylvania's biological resources resides with three administrative agencies. The handout entitled Pennsylvania Biological Resource Management Agencies, outlines which species groups are managed by these agencies. Feel free to contact our office if you have questions concerning this response or the PNDI system, and please refer to the PNDI Search Number at the top of this page in future correspondence concerning this project.

New Search Using Municipal or Quad
New Search Using Latitude and Longitude
PNDI Search Home
PNDI Search Welcome